

Access DB# 132627**SEARCH REQUEST FORM**

Scientific and Technical Information Center

Requester's Full Name: JANIS DOTE Examiner #: 68274 Date: 9/14/04  
Art Unit: 1756 Phone Number 301-571-272-1382 Serial Number: 10/692,389  
Mail Box and Bldg/Room Location: REM 9C75 Results Format Preferred (circle): PAPER DISK E-MAIL

**If more than one search is submitted, please prioritize searches in order of need.**

\*\*\*\*\*

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: ORGANOPHOTORECEPTOR WITH CHARGE TRANSPORT MATERIAL  
WITH TWO N,N,N-TRISUBSTITUTED-AMINO GROUPS  
Inventors (please provide full names): JUBRAN NUSRALLAH; TOKARSKI ZGIGNIEW;  
GETAUTIS VYTANTAS; PALIULIS OSVALDAS; GAIDELIS VALENTAS;  
MONTRIMAS EDMUNDAS  
Earliest Priority Filing Date: 10/23/03

*\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

*Search compounds in attached.*  
*claim 23-26.*

*note particular species in claim 26*

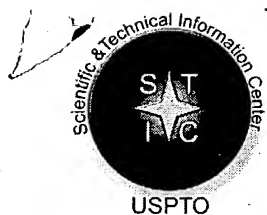
\*\*\*\*\*

**STAFF USE ONLY**

|  | Type of Search          | Vendors and cost where applicable |
|--|-------------------------|-----------------------------------|
| Searcher: <u>K. Fuller</u>             | NA Sequence (#) _____   | STN <u>✓</u>                      |
| Searcher Phone #: _____                | AA Sequence (#) _____   | Dialog _____                      |
| Searcher Location: _____               | Structure (#) <u>10</u> | Questel/Orbit _____               |
| Date Searcher Picked Up: _____         | Bibliographic _____     | Dr.Link _____                     |
| Date Completed: <u>9/17/04</u>         | Litigation _____        | Lexis/Nexis _____                 |
| Searcher Prep & Review Time: <u>40</u> | Fulltext _____          | Sequence Systems _____            |
| Clerical Prep Time: _____              | Patent Family _____     | WWW/Internet _____                |
| Online Time: <u>47</u>                 | Other _____             | Other (specify) _____             |

PTO-1590 (8-01)

4 subsets



# **STIC Search Report**

## **EIC 1700**

**STIC Database Tracking Number: 132627**

**TO: Janis Dote**  
**Location: REM 9C75**  
**Art Unit : 1756**  
**September 20, 2004**

**Case Serial Number: 10/692389**

**From: Kathleen Fuller**  
**Location: EIC 1700**  
**REMSSEN 4B28**  
**Phone: 571/272-2505**  
**Kathleen.Fuller@uspto.gov**

### **Search Notes**

There were only 14 structures from the very broad structure query refined with subset searches. From the 14 structures there were 13 CA references with no utility specified. The compounds of claim 26 do not appear in CA.

=> FILE REG

FILE 'REGISTRY' ENTERED AT 19:17:27 ON 17 SEP 2004  
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.  
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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 16 SEP 2004 HIGHEST RN 746205-18-5  
DICTIONARY FILE UPDATES: 16 SEP 2004 HIGHEST RN 746205-18-5

TSCA INFORMATION NOW CURRENT THROUGH MAY 21, 2004

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:  
<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> FILE HCAPLUS

FILE 'HCAPLUS' ENTERED AT 19:17:31 ON 17 SEP 2004  
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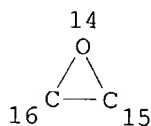
FILE COVERS 1907 - 17 Sep 2004 VOL 141 ISS 13  
FILE LAST UPDATED: 16 Sep 2004 (20040916/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> D QUE

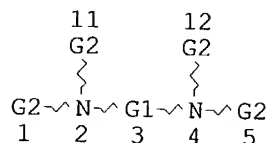
L99

STR



725 structures from  
this query

Ak~Cb  
@6 @7

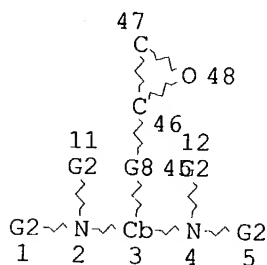


Ak~Cb~Ak  
@8 9 @10

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VAR G2=CB/AK  
NODE ATTRIBUTES:  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RSPEC I  
NUMBER OF NODES IS 15

STEREO ATTRIBUTES: NONE  
L101 725 SEA FILE=REGISTRY SSS FUL L99  
L109 STR



Subset 1

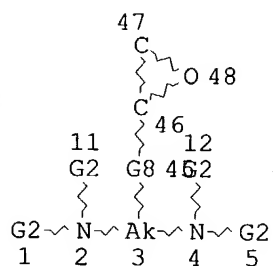
Subset searches  
for more specific  
structures  
covering  
claims 23-26

VAR G2=CB/AK  
REP G8=(1-20) A  
NODE ATTRIBUTES:  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RSPEC I  
NUMBER OF NODES IS 11

STEREO ATTRIBUTES: NONE  
L112 1 SEA FILE=REGISTRY SUB=L101 SSS FUL L109

L113 STR

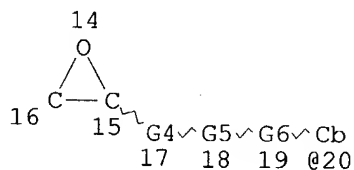


*subset 2*

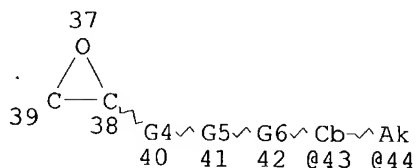
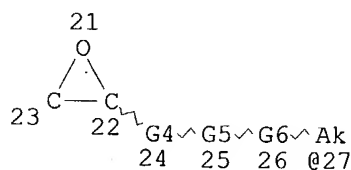
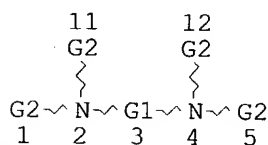
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 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RSPEC I  
 NUMBER OF NODES IS 11

STEREO ATTRIBUTES: NONE  
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 L117 STR



*subset 3*



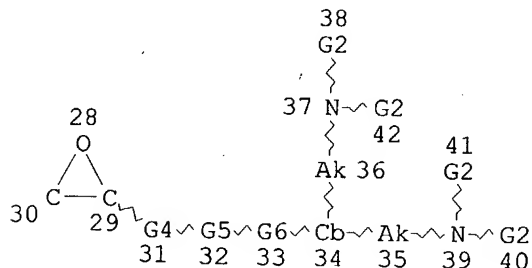
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 REP G4=(1-10) A  
 REP G5=(0-1) CY  
 REP G6=(0-10) A  
 NODE ATTRIBUTES:  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RSPEC I

NUMBER OF NODES IS 29

STEREO ATTRIBUTES: NONE

L120 8 SEA FILE=REGISTRY SUB=L101 SSS FUL L117  
L121 STR



*Subset 4*

VAR G2=CB/AK

REP G4=(1-10) A

REP G5=(0-1) CY

REP G6=(0-10) A

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC I

NUMBER OF NODES IS 15

STEREO ATTRIBUTES: NONE

L124 6 SEA FILE=REGISTRY SUB=L101 SSS FUL L121

L125 14 SEA FILE=REGISTRY ABB=ON L112 OR L116 OR L120 OR L124

L126 13 SEA FILE=HCAPLUS ABB=ON L125

=> D L126 BIB ABS IND HITSTR 1-13

L126 ANSWER 1 OF 13 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1997:772242 HCAPLUS

DN 128:70000

TI Preparation of N-containing complexing agents as contrast media for nuclear spin tomography

IN Deutsch, Julius; Gries, Heinz; Klieger, Erich; Niedballa, Ulrich; Renneke, Franz-Josef; Conrad, Jurgen; Muetzel, Wolfgang; Schmitt-Willich, Heribert

PA Schering A.-G., Germany

SO U.S., 31 pp., Cont.-in-part of U.S. 5,482,700.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 2

|      | PATENT NO.      | KIND | DATE     | APPLICATION NO. | DATE     |
|------|-----------------|------|----------|-----------------|----------|
| PI   | US 5693309      | A    | 19971202 | US 1995-462213  | 19950605 |
|      | DE 3710730      | A1   | 19881020 | DE 1987-3710730 | 19870331 |
| PRAI | DE 1987-3710730 |      | 19870331 |                 |          |
|      | US 1989-430442  |      | 19891002 |                 |          |
|      | US 1991-715713  |      | 19910618 |                 |          |
|      | US 1993-66646   |      | 19930525 |                 |          |
|      | US 1994-269504  |      | 19940701 |                 |          |

*Total of 14 structures*

*13 CA references  
No utility is specified*

OS CASREACT 128:70000; MARPAT 128:70000

AB The title compds.  $(XO_2CCH_2)_2N[CH_2CH_2N(CH_2CO_2X)]_nCHR_1CHR_2[N(CH_2CO_2X)CH_2CH_2]_mN(CH_2CO_2X)_2$  [I; R1, R2 = H, (un)substituted C0-20 alkylene; n, m = 0-4; X = H, metal ion equivalent of an element of atomic nos. 21-29, 42, 44 of 57-83] are prepared I are useful as contrast media for nuclear spin tomog. Thus, 3,6-diaza-3,6-bis(tert-butoxycarbonylmethyl)-4-[4-[3-(maleimido)propoxy]benzyl]suberic acid di-tert-Bu ester (preparation given) was treated with CF3CO2H and then reacted with gadolinium acetate in the presence of NH4OAc to give the gadolinium complex. One of I was tested as contrast media with HT29 colon carcinoma by NMR tomograph.

IC ICM A61B005-055  
ICS A61K049-04

NCL 424009364

CC 78-7 (Inorganic Chemicals and Reactions)  
Section cross-reference(s): 8, 9, 25, 27

ST complex contrast media nuclear spin tomog; gadolinium aminocarboxylate complex prepn NMR tomog; transition metal aminocarboxylate prepn NMR tomog

IT Imaging agents  
Imaging agents  
(NMR contrast; preparation of N-containing complexing agents as contrast media for nuclear spin tomog.)

IT Intestine, neoplasm  
RL: BPR (Biological process); BSU (Biological study, unclassified); MSC (Miscellaneous); BIOL (Biological study); PROC (Process)  
(colon, carcinoma; preparation of N-containing complexing agents as contrast media for nuclear spin tomog.)

IT NMR tomography  
NMR tomography  
(contrast agents; preparation of N-containing complexing agents as contrast media for nuclear spin tomog.)

IT Imaging agents  
Imaging agents  
(contrast, NMR tomog.; preparation of N-containing complexing agents as contrast media for nuclear spin tomog.)

IT Imaging agents  
(contrast, radiog.; preparation of N-containing complexing agents as contrast media for nuclear spin tomog.)

IT Antibodies  
RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(monoclonal, indium aminocarboxylate complex conjugate; preparation of N-containing complexing agents as contrast media for nuclear spin tomog.)

IT NMR tomography  
(preparation of N-containing complexing agents as contrast media for nuclear spin tomog.)

IT Transition metal complexes  
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)  
(preparation of N-containing complexing agents as contrast media for nuclear spin tomog.)

IT 108-31-6, 2,5-Furandione, reactions 110-91-8, Morpholine, reactions 543-27-1, Chloroformic acid isobutyl ester 617-36-7, Ethyl oxamate 920-46-7, Methacryloyl chloride 4101-68-2, 1,10-Dibromodecane 4755-77-5, Oxalic acid ethyl ester chloride 5292-43-3 5437-45-6, Bromoacetic acid benzyl ester 6284-40-8, N-Methyl-D-glucamine

16056-77-2, Gadolinium acetate 16652-64-5, O-Benzyltyrosine  
 18807-71-1, N-(2-Aminoethyl)carbamic acid benzyl ester hydrochloride  
 35013-72-0 39945-54-5, N-(3-Bromopropyl)carbamic acid benzyl ester  
 72732-69-5, 1-(4-Hydroxybenzyl)-1,2-ethanediamine dihydrochloride  
 73504-43-5, O-Benzyltyrosinamide 78277-26-6, 6-Bromocaproic acid benzyl  
 ester 119959-23-8

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of N-containing complexing agents as contrast media for nuclear  
 spin tomog.)

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|    | 119958-94-0P | 121326-67-8P | 121326-68-9P | 121326-69-0P | 121326-71-4P |
|    | 121326-72-5P | 121326-73-6P | 121326-74-7P | 121326-75-8P | 121326-76-9P |
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|    | 121326-82-7P | 121326-83-8P | 121326-84-9P | 121326-85-0P | 121326-86-1P |
|    | 121326-87-2P | 121326-88-3P | 121326-89-4P | 121326-90-7P | 121326-91-8P |
|    | 121326-92-9P | 121326-93-0P | 121326-94-1P | 121326-95-2P | 121326-96-3P |
|    | 121326-97-4P | 121326-98-5P | 121326-99-6P | 121327-00-2P | 121327-01-3P |
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|    | 121327-07-9P | 121327-08-0P | 121327-09-1P | 121327-10-4P | 121327-11-5P |
|    | 121327-12-6P | 121327-13-7P | 121327-14-8P | 121327-15-9P | 121327-16-0P |
|    | 121327-17-1P | 121327-18-2P | 121327-19-3P | 121327-20-6P | 121327-21-7P |
|    | 121327-22-8P | 121327-23-9P | 121327-24-0P | 121327-25-1P | 121327-26-2P |
|    | 121327-27-3P | 121327-28-4P | 121327-29-5P | 121327-30-8P | 121327-31-9P |
|    | 121327-32-0P | 121327-33-1P | 121327-34-2P | 121327-35-3P | 121327-36-4P |
|    | 121327-37-5P | 121327-38-6P | 121327-39-7P | 121327-40-0P | 121327-41-1P |
|    | 121327-42-2P | 121327-43-3P | 121327-44-4P | 121327-45-5P |              |
|    | 121327-46-6P | 121327-47-7P | 121327-48-8P | 121327-49-9P |              |
|    | 121327-52-4P | 121327-53-5P | 121327-54-6P | 121327-55-7P | 121327-56-8P |
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|    | 200425-52-1P | 200425-53-2P | 200425-54-3P | 200425-55-4P | 200425-56-5P |
|    | 200425-57-6P | 200425-58-7P |              |              |              |

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)

(preparation of N-containing complexing agents as contrast media for nuclear  
 spin tomog.)

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|    | 121413-37-4P                          | 121413-38-5P | 121413-39-6P | 121413-40-9P | 121413-41-0P   |
|    | 121413-42-1P                          | 121413-43-2P | 121413-44-3P | 121413-45-4P | 121413-46-5P   |
|    | 121413-47-6P                          | 121413-48-7P | 121413-49-8P | 121413-50-1P | 121413-51-2P   |
|    | 121413-52-3P                          | 121413-53-4P | 121413-54-5P | 121413-55-6P | 121413-56-7P   |
|    | 121413-57-8P                          | 121413-58-9P | 121413-59-0P | 121413-60-3P | 121413-61-4P   |
|    | 121413-62-5P                          | 121413-63-6P | 121413-64-7P | 121413-65-8P | 121413-66-9P   |
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|    | 121413-72-7P                          | 121413-74-9P | 121413-75-0P | 121413-76-1P | 121413-77-2P   |
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|    | 121413-89-6P                          | 121413-90-9P | 121413-91-0P | 121413-92-1P | 121413-93-2P   |
|    | 121413-94-3P                          | 121413-95-4P | 121413-96-5P | 121413-97-6P | 121413-98-7P   |
|    | 121413-99-8P                          | 121414-00-4P | 121414-01-5P | 121414-02-6P | 121414-03-7P   |
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|    | 121430-26-0P                          | 121430-27-1P | 121430-28-2P | 121430-29-3P | 121430-30-6DP, |
|    | monoclonal antibody complex conjugate | 121430-30-6P | 121430-31-7P |              |                |
|    | 121430-32-8P                          | 121430-33-9P | 121430-34-0P | 121430-35-1P | 121430-36-2P   |
|    | 121430-37-3P                          | 121430-38-4P | 121430-39-5P | 121430-40-8P | 121430-41-9P   |
|    | 121430-42-0P                          | 121436-83-7P | 121436-84-8P | 121436-85-9P | 121436-86-0P   |
|    | 121436-87-1P                          | 121436-88-2P | 121436-89-3P | 121436-90-6P | 121436-91-7P   |



|  |              |              |              |              |
|--|--------------|--------------|--------------|--------------|
| 121436-92-8P   | 121436-93-9P | 121436-94-0P | 121436-95-1P | 121436-96-2P |
| 121436-97-3P   | 121436-98-4P | 121436-99-5P | 121437-00-1P | 121437-01-2P |
| 121437-02-3P   | 121437-03-4P | 121437-04-5P | 121437-05-6P | 121437-06-7P |
| 121437-07-8P   | 121437-08-9P | 121437-09-0P | 121437-10-3P | 121437-11-4P |
| 121437-12-5P   | 121437-13-6P | 121437-14-7P | 121437-15-8P | 121437-16-9P |
| 121437-17-0P   | 121437-18-1P | 121437-19-2P | 121437-20-5P | 121452-65-1P |
| 121452-66-2DP, monoclonal antibody complex conjugate |              |              |              | 121515-94-4P |
| 121515-95-5P   | 121515-96-6P | 122042-07-3P | 122042-08-4P | 122843-48-5P |
| 200425-27-0P   | 200425-29-2P | 200425-31-6P | 200425-32-7P | 200425-34-9P |
| 200425-36-1P   | 200425-37-2P | 200425-38-3P | 200425-39-4P | 200425-40-7P |
| 200425-41-8P   | 200425-42-9P | 200425-43-0P | 200425-44-1P | 200425-45-2P |
| 200425-46-3P   | 200425-47-4P | 200425-48-5P | 200425-49-6P | 200425-50-9P |
| 200425-51-0P   |              |              |              |              |

RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of N-containing complexing agents as contrast media for nuclear spin tomog.)

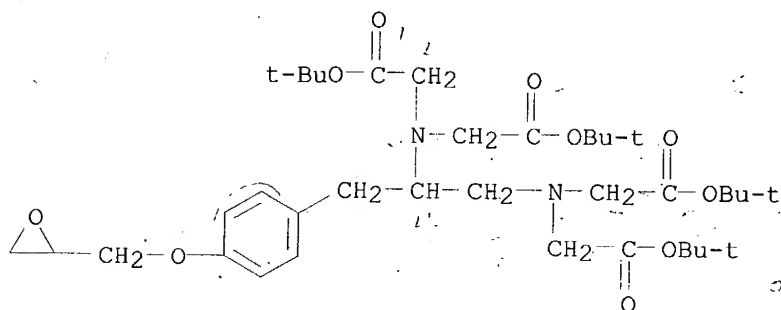
IT 121327-42-2P 121327-45-5P 121327-48-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of N-containing complexing agents as contrast media for nuclear spin tomog.)

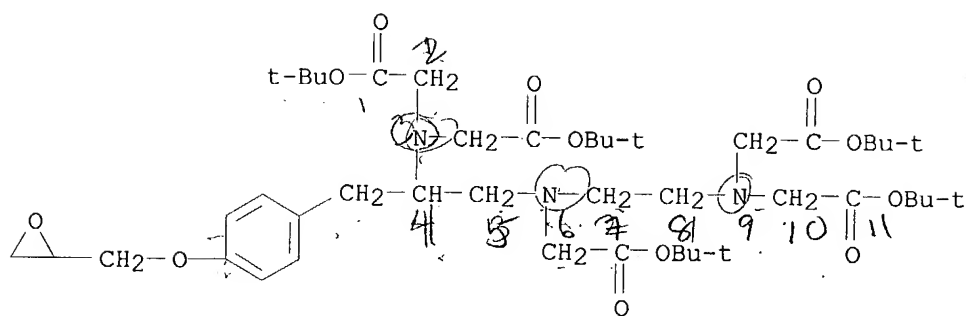
RN 121327-42-2 HCAPLUS

CN Glycine, N,N'-[1-[[4-(oxiranylmethoxy)phenyl]methyl]-1,2-ethanediyl]bis[N-[2-(1,1-dimethylethoxy)-2-oxoethyl]-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)

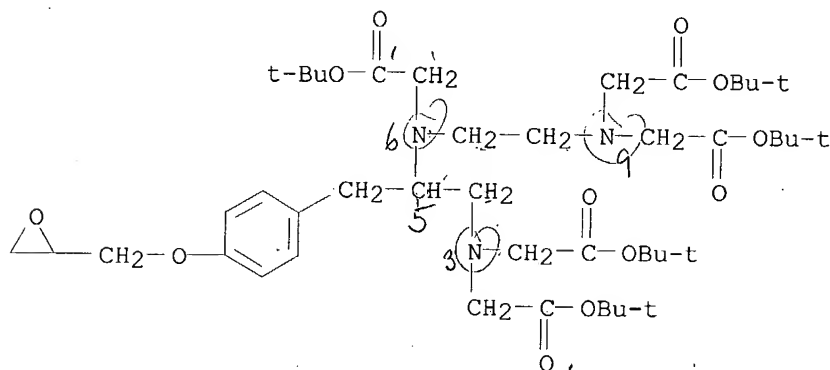


RN 121327-45-5 HCAPLUS

CN Glycine, N-[2-[bis[2-(1,1-dimethylethoxy)-2-oxoethyl]amino]ethyl]-N-[2-[bis[2-(1,1-dimethylethoxy)-2-oxoethyl]amino]-3-[4-(oxiranylmethoxy)phenyl]propyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



RN 121327-48-8 HCAPLUS  
 CN Glycine, N-[2-[bis[2-(1,1-dimethylethoxy)-2-oxoethyl]amino]ethyl]-N-[1-  
 [[bis[2-(1,1-dimethylethoxy)-2-oxoethyl]amino]methyl]-2-[4-  
 (oxiranylmethoxy)phenyl]ethyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX  
 NAME)



L126 ANSWER 2 OF 13 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1995:622657 HCAPLUS  
 DN 123:33750  
 TI Synthesis and polymerization of 1-(2,4,6-tricyanophenylthio)-3-[3,5-  
 bis(N,N-dimethylamino)phenoxy]-2-propyl methacrylate; polymer effect on  
 intramolecular charge-transfer interaction  
 AU Itoh, Takahito; Noki, Ryuichi; Simosato, Shinji; Magara, Isao; Iwatsuki,  
 Shouji  
 CS Faculty Engineering, Mie University, Kamihama-cho, Tsu, 514, Japan  
 SO Journal of Polymer Science, Part A: Polymer Chemistry (1995), 33(9),  
 1475-85  
 CODEN: JPACEC; ISSN: 0887-624X  
 PB Wiley  
 DT Journal  
 LA English  
 AB 1-[3,5-Bis(N,N-dimethylamino)phenoxy]- $\omega$ -(2,4,6-  
 tricyanophenylthio)alkanes (Ia-c), where an electron-accepting  
 2,4,6-tricyanophenylthio group and an electron-donating  
 3,5-bis(N,N-dimethylamino)phenoxy group are linked with a spacer such as,  
 ethylene, trimethylene, or tetramethylene, were prepared in order to examine  
 the effect of the spacer chain length on intramol. charge-transfer  
 interaction between the 2,4,6-tricyanophenylthio and 3,5-bis(N,N-

dimethylamino)phenoxy groups. From the UV-vis measurements of Ia-c, 1-[3,5-bis(N,N-dimethylamino)phenoxy]-3-(2,4,6-tricyanophenylthio)propane (Ib) carrying the trimethylene chain as a spacer was found to have the strongest intramol. charge-transfer interaction. A new methacrylate-type monomer carrying the Ib unit as a side chain, 1-(2,4,6-tricyanophenylthio)-3-[3,5-bis(N,N-dimethylamino)phenoxy]-2-propylmethacrylate (II), was prepared successfully in 9.2% total yield in seven steps. II homopolymd. in benzene, THF, acetone, and DMSO in the presence of AIBN at 60° to give poly-II with mol. wts. of 6,000 to 98,000. An intramol. charge-transfer interaction in the poly-II was found to be larger than that in II and increased with an increase in the d.p. of the poly-II, suggesting that there is an existence of polymer effect other than the polymer effect due to the high local concentration of the donor-acceptor pair.

CC 35-4 (Chemistry of Synthetic High Polymers)  
Section cross-reference(s): 36

ST polymethacrylate tricyanophenylthio prepn property; polymn tricyanophenylthiobisdimethylaminophenoxypropyl methacrylate; intramol charge transfer polymer

IT Polymerization  
(radical, of (tricyanophenylthio)[bis(N,N-dimethylamino)phenoxy]propyl methacrylate)

IT 920-46-7P, Methacryloyl chloride  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(condensation with (tricyanophenylthio)-bis(N,N-dimethylamino)phenoxypropanol)

IT 106-93-4, 1,2-Dibromoethane 107-80-2, 1,3-Dibromobutane 109-64-8, 1,3-Dibromopropane  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(condensation with 3,5-bis(N,N-dimethylamino)phenol)

IT 106-89-8, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(condensation with bis(N,N-dimethylamino)phenol)

IT 10387-40-3, Potassium thioacetate  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(condensation with bromo[bis(N,N-dimethylamino)phenoxy]alkanes)

IT 16857-98-0  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(condensation with dibromoalkanes)

IT 75-36-5, Acetyl chloride  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(condensation with epichlorohydrin adduct with bis(N,N-dimethylamino)phenol)

IT 13520-05-3  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(condensation with thio[bis(N,N-dimethylamino)phenoxy]alkanes)

IT 164354-14-7P 164354-15-8P 164354-16-9P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(model for polymer; preparation and characterization of)

IT 164354-24-9P  
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)  
(preparation and characterization of)

IT 164354-18-1  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(preparation and condensation with acetyl chloride)

IT 164354-11-4P 164354-12-5P 164354-13-6P 164354-21-6P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and condensation with bromotricyanobenzene)

IT 164354-22-7P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (preparation and condensation with methacryloyl chloride)

IT 164354-05-6P 164354-06-7P 164354-07-8P 164354-19-2P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (preparation and condensation with potassium thioacetate)

IT 164354-23-8P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (preparation and polymerization of)

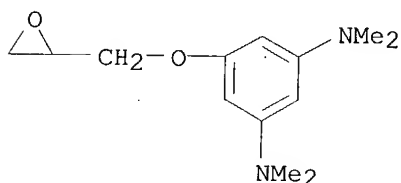
IT 164354-08-9P 164354-09-0P 164354-10-3P 164354-20-5P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (preparation and reduction of)

IT 164354-17-0P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (preparation and ring-opening of)

IT 164354-17-0P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
 (Reactant or reagent)  
 (preparation and ring-opening of)

RN 164354-17-0 HCAPLUS

CN 1,3-Benzenediamine, N,N,N',N'-tetramethyl-5-(oxiranylmethoxy)- (9CI) (CA  
 INDEX NAME)



L126 ANSWER 3 OF 13 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1991:680870 HCAPLUS

DN 115:280870

TI Complexes of complexing agents bonded to cascade polymers for use in  
 pharmaceuticals

IN Platzek, Johannes; Schmitt-Willich, Heribert; Gries, Heinz;  
 Schuhmann-Giampieri, Gabriele; Vogler, Hubert; Weinmann, Hanns Joachim;  
 Bauer, Hans

PA Schering A.-G., Pol.

SO Ger. Offen., 36 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

|    | PATENT NO. | KIND | DATE     | APPLICATION NO. | DATE     |
|----|------------|------|----------|-----------------|----------|
| PI | DE 3938992 | A1   | 19910523 | DE 1989-3938992 | 19891121 |
|    | EP 430863  | A2   | 19910605 | EP 1990-730017  | 19901119 |
|    | EP 430863  | A3   | 19920304 |                 |          |
|    | EP 430863  | B1   | 19950517 |                 |          |

|   |   |          |                 |          |
|---|---|----------|-----------------|----------|
| EP 430863   | B2  | 19990825 |                 |          |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE |   |          |                 |          |
| ES 2073006  | T3  | 19950801 | ES 1990-730017  | 19901119 |
| HU 56121  | A2  | 19910729 | HU 1990-7217    | 19901120 |
| CA 2030472  | AA  | 19910522 | CA 1990-2030472 | 19901121 |
| CA 2030472  | C   | 20030610 |                 |          |
| FI 9005744  | A   | 19910522 | FI 1990-5744    | 19901121 |
| NO 9005037  | A   | 19910522 | NO 1990-5037    | 19901121 |
| NO 178032   | B   | 19951002 |                 |          |
| NO 178032   | C   | 19960110 |                 |          |
| AU 9066859  | A1  | 19910530 | AU 1990-66859   | 19901121 |
| AU 684453   | B2  | 19971218 |                 |          |
| JP 03246234   | A2  | 19911101 | JP 1990-314440  | 19901121 |
| JP 3179092  | B2  | 20010625 |                 |          |
| ZA 9009352  | A   | 19911224 | ZA 1990-9352    | 19901121 |
| US 5364614  | A   | 19941115 | US 1990-617077  | 19901121 |
| IL 96434  | A1  | 19950124 | IL 1990-96434   | 19901121 |
| JP 2000355593   | A2  | 20001226 | JP 2000-130116  | 19901121 |
| GR 3031629  | T3  | 20000131 | GR 1999-402638  | 19991015 |
| US 2002068037   | A1  | 20020606 | US 2001-973836  | 20011011 |
| US 6576222  | B2  | 20030610 |                 |          |
| US 2003232017   | A1  | 20031218 | US 2002-316094  | 20021211 |
| PRAI DE 1989-3938992                                      | A   | 19891121 |                 |          |
| JP 1990-314440  | A3  | 19901121 |                 |          |
| US 1990-617077  | A1  | 19901121 |                 |          |
| US 1994-209098  | B1  | 19940311 |                 |          |
| US 1994-353390  | A1  | 19941202 |                 |          |
| US 1996-743535  | A3  | 19961104 |                 |          |
| US 1998-156048  | A3  | 19980917 |                 |          |
| US 2000-510363  | A3  | 20000222 |                 |          |
| US 2000-628179  | A3  | 20000728 |                 |          |
| US 2001-973836  | A3  | 20011011 |                 |          |
| AB  | Cascade polymers containing complexing ligands and, optionally, $\geq 5$ ions of elements with atomic number 21-29, 42, 44, or 57-83 and cations of inorg. or organic bases, amino acids, or amino amides are useful in magnetic resonance imaging and x-ray diagnosis. The reaction of 50 mmol $N(CH_2CH_2NH_2)_3$ with 600 mmol Me acrylate (I) in MeOH at room temperature gave 92.3% hexa-Me ester of   |          |                 |          |
|   | a cascade polymer which was treated (40 mmol) with 3.6 mmol ethylenediamine (II) in MeOH to give 94% hexa-amine derivative, successive reactions of which with I and II gave a tetracosamine derivative of a tetracosamine ester containing 25.27% N. Treating 4.94 g this polymer with 29.04 g $N_3-[(2,6-dioxomorpholino)ethyl]-N_6-(2-carbethoxyethyl)-3,6-diazaoctanedioic$ acid in $H_2O$ at pH 9.0, adjusting the pH to 7 by ion exchange, ultrafiltration, and freeze drying gave 13.6 g powder, 10.0 g of which was stirred with 2.77 g $Gd_2O_3$ in $H_2O$ at $80^\circ$ for 30 min to give 12.1 g polymer containing 17.9% Gd and 5.6% $H_2O$ , with T1 relaxivity 12.98 and 13.23 L/mmol-s in $H_2O$ and plasma, resp. |          |                 |          |
| IC  | ICM C08G073-00  |          |                 |          |
|   | ICS C08F008-30; A61K049-00; C08B037-00; C07K015-00; C01F017-00; C07C211-14; C07C211-65; C07D257-00; C07D259-00; C07D471-08; A61K039-44  |          |                 |          |
| ICI   | C07D471-08, C07D221-00, C07D257-00  |          |                 |          |
| CC  | 35-8 (Chemistry of Synthetic High Polymers)   |          |                 |          |
|   | Section cross-reference(s): 27, 29, 63  |          |                 |          |
| ST  | cascade polymer gadolinium complex; magnetic resonance imaging polymer complex; x ray contrast polymer complex; acrylate copolymer cascade complex; ethylenediamine copolymer cascade complex; nitrilotriethylamine copolymer cascade complex; chelate gadolinium cascade polymer   |          |                 |          |

IT Radiography  
(monomeric and polymeric gadolinium complexes for use in)

IT Imaging  
(NMR, monomeric and polymeric gadolinium complexes for use in)

IT 616-29-5, 1,3-Diamino-2-propanol 929-06-6, 2-(2-Aminoethoxy)ethanol  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(benzylation of)

IT 40908-15-4DP, reaction products with (isocyanatohydroxyoxaethyl)tris(carboxymethyl)tetraazacyclododecane gadolinium complex 136535-73-4DP,  
reaction products with [(dioxomorpholino)ethyl](carboethoxymethyl)diazaoctanedioic acid, gadolinium complexes  
RL: PREP (Preparation)  
(cascade, preparation of, for use in magnetic resonance imaging and radiog.)

IT 78668-34-5P  
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and acetylation of)

IT 137679-71-1P  
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and bromoacetylation of)

IT 136533-02-3P  
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and hydrogenation of)

IT 78668-28-7P  
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and hydrolysis of)

IT 129135-06-4P  
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and nitration of)

IT 136536-43-1P 137679-68-6P 137679-70-0P 137679-74-4P  
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and thiophosgenation of)

IT 129135-05-3P  
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and N-oxidation of)

IT 129135-17-7P 129135-18-8P 136532-96-2P 136532-97-3P 136533-00-1P  
136533-03-4P 136533-04-5P 137368-61-7P 137679-52-8P 137679-67-5P  
137679-73-3P  
RL: PREP (Preparation)  
(preparation of)

IT 129135-07-5P  
RL: PREP (Preparation)  
(preparation of, and reaction with acetyl chloride)

IT 136533-07-8P 136533-09-0P  
RL: PREP (Preparation)  
(preparation of, and reaction with epichlorohydrin)

IT 136533-08-9P  
RL: PREP (Preparation)  
(preparation of, and reaction with hexaaminohexadeoxycyclodextrin hexahydrochloride)

IT 136533-01-2P  
RL: PREP (Preparation)  
(preparation of, and reaction with sodium azide)

IT 88285-82-9P 136532-98-4P 136533-10-3P 136549-20-7P  
RL: PREP (Preparation)  
(preparation of, and reaction with tris(carboxymethyl)tetraazacyclododecane)

IT 129135-19-9P  
RL: PREP (Preparation)  
(preparation of, and reaction with tert-butylbromoacetate)

IT 7440-54-2DP, Gadolinium, complexes with ligand derivs. of cascade polymers

115234-09-8DP, reaction products with cascade polyamines, gadolinium complexes 136532-99-5P 136533-05-6P 136533-06-7DP, reaction products with cascade polymers and [(dioxomorpholino)ethyl](carboethoxymethyl)diazaoctanedioic acid, gadolinium complexes 136549-21-8DP, reaction products with [(dioxomorpholino)ethyl](carbomethoxymethyl)diazaoctanedioic acid, gadolinium complexes 137679-69-7P 137679-71-1DP, reaction products with cascade polymers 137679-72-2P

RL: PREP (Preparation)

(preparation of, for use in magnetic resonance imaging and radiog.)

IT 100-39-0, Benzyl bromide

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with (aminoethoxy)ethanol)

IT 463-71-8, Thiophosgene

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with (aminohydroxypropyl)tris(carboxymethyl)tetraazacyclododecane gadolinium complex)

IT 598-21-0, Bromoacetyl bromide

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with (isothiocyanatohydroxyoxahexyl)tris(carboxymethyl)tetraazacyclododecane)

IT 106-89-8, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with amines)

IT 52601-80-6

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with bis(chloromethyl)pyridine)

IT 68779-95-3

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with bis(dibenzylamino)(oxiranylmethoxy)propane)

IT 5292-43-3, tert-Butylbromoacetate

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with chlorotetraazabicyclopentadecatriene)

IT 26628-22-8, Sodium azide

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with chlorotris(carbobutoxymethyl)tetraazabicyclopentadecatriene)

IT 101-06-4, 2-(Dibenzylamino)ethanol 103-49-1, Dibenzylamine

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with epichlorohydrin)

IT 114873-37-9

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with glycidylidibenzylamine)

IT 75-36-5, Acetyl chloride

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with nitrotriacyltetraazabicyclopentadecatriene N-oxide)

IT 3099-28-3, 2,6-Bis(chloromethyl)pyridine

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with tris(toluenesulfonyl)diethylenetriaminedisodium salt)

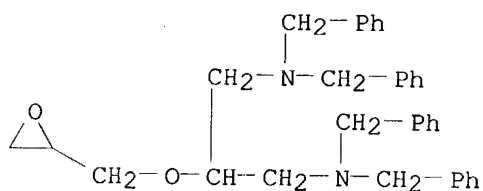
IT 136533-08-9P

RL: PREP (Preparation)

(preparation of, and reaction with hexaaminohexadeoxycyclodextrin hexahydrochloride)

RN 136533-08-9 HCAPLUS

CN 1,3-Propanediamine, 2-(oxiranylmethoxy)-N,N,N',N'-tetrakis(phenylmethyl)-(9CI) (CA INDEX NAME)



L126 ANSWER 4 OF 13 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1990:140769 HCAPLUS

DN 112:140769

TI Polymer-bonded complexing agents and their complexes for use in pharmaceuticals

IN Deutsch, Julius; Schmitt-Willich, Heribert; Gries, Heinz; Conrad, Juergen; Neumeier, Reinhard

PA Schering A.-G., Fed. Rep. Ger.

SO Ger. Offen., 47 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

|      | PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---|------|----------|-----------------|----------|
| PI   | DE 3806795  | A1   | 19890907 | DE 1988-3806795 | 19880229 |
|      | NO 8900832  | A    | 19890830 | NO 1989-832     | 19890227 |
|      | NO 174394   | B    | 19940117 |                 |          |
|      | NO 174394   | C    | 19940427 |                 |          |
|      | EP 331616   | A2   | 19890906 | EP 1989-730046  | 19890227 |
|      | EP 331616   | A3   | 19920304 |                 |          |
|      | EP 331616   | B1   | 19951108 |                 |          |
|      | R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE |      |          |                 |          |
|      | JP 02196864   | A2   | 19900803 | JP 1989-43346   | 19890227 |
|      | AT 130017   | E    | 19951115 | AT 1989-730046  | 19890227 |
| PRAI | DE 1988-3806795                                       |      | 19880229 |                 |          |

AB The title complexing agents, useful in diagnosis and therapy, consists of polymers bearing CO<sub>2</sub>H or P acid groups and, optionally, ions with atomic number 21-29, 31, 32, 37-39, 42-44, 49, or 57-83 or cations of inorg. or organic bases, amino acids, or amino amides. Stirring 7.6 g di-tert-Bu 2,6,9-tris[(tert-butoxycarbonyl)methyl]-4-(4-carbomethoxybenzyl)undecanedioate (the multistep preparation of which is described), 1.28 g iso-Bu chloroformate, 1.9 g Et<sub>3</sub>N, and 100 mL THF at 0° for 1 h, adding an aqueous solution of 533.2 mg polyethylenimine with cooling, and stirring at room temperature gave 4.35 g crystalline powder which formed a Gd complex containing 20.67%

Gd. Similar Gd complexes were used as contrast agents in the diagnosis of tumors by NMR.

IC ICM C08G073-04

ICS C08G073-10; C08G073-08; C08G069-08; C08G069-42; C08F020-02; C08F008-30; A61K031-66; A61K031-785; A61K033-24; A61K031-195; G01N033-48

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 63

ST gadolinium complex polymer; polyethyleneimine complexing agent; NMR diagnosis contrast agent; pharmaceutical complexing agent polymeric

IT Diagnosis

(polymeric gadolinium chelates for use in)



- IT Imaging  
(NMR, polymeric gadolinium chelates for use in)
- IT Antibodies  
RL: USES (Uses)  
(monoclonal, complexes with polymeric gadolinium chelates, for diagnosis)
- IT Amines, compounds  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(poly-, complexes, gadolinium, preparation of)
- IT 119958-77-9P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and ammonolysis of)
- IT 119976-13-5P 121326-97-4P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and hydrogenation of)
- IT 119958-76-8P 119958-92-8P 121326-93-0P 121327-13-7P 125966-62-3P  
RL: RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and hydrogenolysis of)
- IT 121326-77-0P 125080-52-6P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and hydrolysis of)
- IT 119958-78-0P 119958-93-9P 125923-08-2P 125923-09-3P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and reduction of)
- IT 6284-40-8DP, N-Methylglucamine, salts with polymeric gadolinium complexes  
7429-91-6DP, Dysprosium, complexes with polymeric ligands 7440-54-2DP, Gadolinium, complexes with polymeric ligands 9002-98-6DP, reaction products with polyamine amides, gadolinium complexes 9003-32-1DP, Poly(ethylacrylate), reaction products with complexing agents, gadolinium complexes 25104-18-1DP, Polylysine, reaction products with complexing agents, gadolinium complexes 99938-64-4DP, reaction products with carbomethoxymethylated polyethyleneimine, gadolinium complexes 115234-09-8DP, reaction products with polyethyleneimine, gadolinium and dysprosium complexes 119958-72-4P 119958-85-9DP, reaction products with polyethyleneimine, gadolinium complexes 119959-23-8DP, reaction products with polyamine amides, gadolinium complexes 121326-86-1DP, reaction products with polylysine, gadolinium complexes 121326-94-1DP, reaction products with poly(Et acrylate), gadolinium complexes 121327-08-0DP, reaction products with polyethyleneimine, gadolinium complexes 121327-45-5DP, reaction products with polyethyleneimine, gadolinium complexes 121341-87-5DP, reaction products with polyethyleneimine, gadolinium complexes 125080-46-8DP, reaction products with polyethyleneimine, gadolinium complexes 125923-10-6DP, reaction products with polyamine amides, gadolinium complexes 125966-61-2DP, reaction products with polylysine, gadolinium complexes 125966-63-4DP, reaction products with carbomethoxymethylated polyethyleneimine, gadolinium complexes  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)
- IT 119958-70-2P 119958-73-5P 125966-60-1P  
RL: PREP (Preparation)  
(preparation of, and reaction with Bu bromoacetate)
- IT 119958-67-7P  
RL: PREP (Preparation)  
(preparation of, and reaction with Et chloroformate)

IT 119958-71-3P  
RL: PREP (Preparation)  
(preparation of, and reaction with azatritosylpentanediol)

IT 121326-92-9P 121327-11-5P 121327-12-6P  
RL: PREP (Preparation)  
(preparation of, and reaction with benzyl bromoacetate)

IT 38000-06-5DP, reaction products with complexing agents, gadolinium complexes 119958-74-6P 121327-56-8P  
RL: PREP (Preparation)  
(preparation of, and reaction with epichlorohydrin)

IT 16695-22-0  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with (hydroxybenzyl)tritosylazapentanediamine)

IT 72732-69-5  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with Bu bromoacetate)

IT 1145-80-8  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with Et chloroformate)

IT 119959-22-7  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with Et oxamate)

IT 541-41-3, Ethyl chloroformate  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with benzyl (trifluoroacetyl)tyrosine)

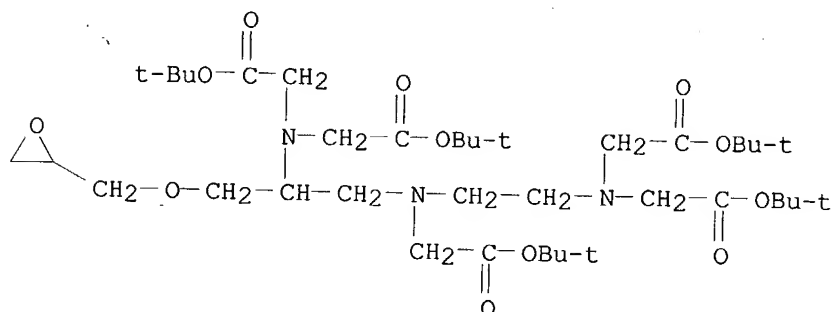
IT 617-36-7, Ethyloxamate 4755-77-5  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with benzyltyrosineamide)

IT 106-89-8, reactions 5292-43-3, tert-Butyl bromoacetate 5437-45-6, Benzylbromoacetate 39945-54-5  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with polyamines)

IT 121327-45-5DP, reaction products with polyethyleneimine, gadolinium complexes 125080-46-8DP, reaction products with polyethyleneimine, gadolinium complexes 125966-61-2DP, reaction products with polylysine, gadolinium complexes  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)

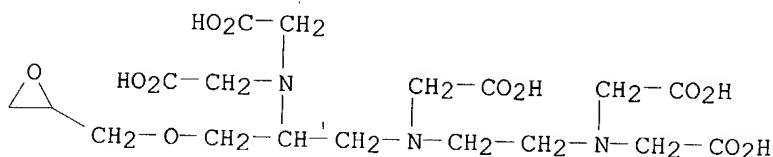
RN 121327-45-5 HCAPLUS  
CN Glycine, N-[2-[bis[2-(1,1-dimethylethoxy)-2-oxoethyl]amino]ethyl]-N-[2-[bis[2-(1,1-dimethylethoxy)-2-oxoethyl]amino]-3-[4-(oxiranylmethoxy)phenyl]propyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

CN Glycine, N-[2-[bis[2-(1,1-dimethylethoxy)-2-oxoethyl]amino]ethyl]-N-[2-[bis[2-(1,1-dimethylethoxy)-2-oxoethyl]amino]-3-(oxiranylmethoxy)propyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



RN 125966-61-2 HCAPLUS

CN Glycine, N-[2-[bis(carboxymethyl)amino]ethyl]-N-[2-[bis(carboxymethyl)amino]-3-(oxiranylmethoxy)propyl]- (9CI) (CA INDEX NAME)



L126 ANSWER 5 OF 13 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1990:135602 HCAPLUS

DN 112:135602

TI Cyclic aliphatic aza complexants, complexes and complex salts, process for their preparation and pharmaceutical agents containing them

IN Deutsch, Julius; Conrad, Juergen

PA Schering A.-G., Fed. Rep. Ger.

SO Eur. Pat. Appl., 37 pp.

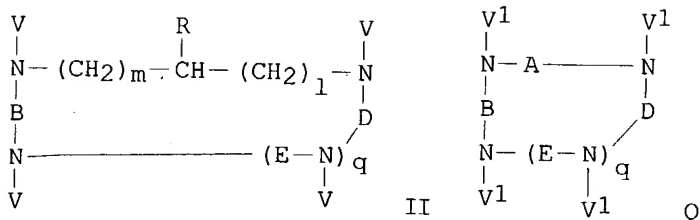
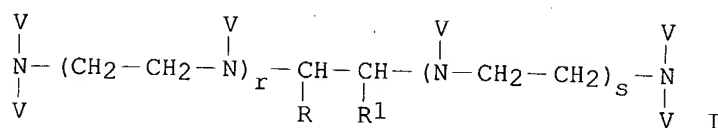
CODEN: EPXXDW

DT Patent

LA German

FAN.CNT 1

|      | PATENT NO.  | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---|------|----------|-----------------|----------|
| PI   | EP 305320   | A2   | 19890301 | EP 1988-730187  | 19880823 |
|      | EP 305320   | A3   | 19890412 |                 |          |
|      | EP 305320   | B1   | 19920923 |                 |          |
|      | R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE |      |          |                 |          |
|      | DE 3728525  | A1   | 19890316 | DE 1987-3728525 | 19870824 |
|      | AT 80869  | E    | 19921015 | AT 1988-730187  | 19880823 |
|      | ES 2052767  | T3   | 19940716 | ES 1988-730187  | 19880823 |
|      | JP 01139555   | A2   | 19890601 | JP 1988-208493  | 19880824 |
| PRAI | DE 1987-3728525                                       |      | 19870824 |                 |          |
|      | EP 1988-730187  |      | 19880823 |                 |          |
| OS   | CASREACT 112:135602                                   |      |          |                 |          |
| GI   |   |      |          |                 |          |



AB The aliphatic aza derivs. I and II [B, D, E = (CH<sub>2</sub>)<sub>k</sub>(CHR<sub>2</sub>)<sub>n</sub>(CH<sub>2</sub>)<sub>l</sub>; R, R<sub>1</sub>, R<sub>2</sub> = H, (un)substituted alkylene having terminal functional group or macromol.; V = Q, radical related to I or II; A = (CH<sub>2</sub>)<sub>m</sub>CHR<sub>2</sub>(CH<sub>2</sub>)<sub>l</sub>; V<sub>1</sub> = V, CH<sub>2</sub>X; X = CO<sub>2</sub>Y, PO<sub>3</sub>HY; Y = H, metal; k, l = 0-5; m = 1-5; n = 0, 1; q = 0-2; r = 0-3] are prepared as complexing agents and complexes for diagnosis and therapy (no data). A solution of 3-aza-1-(4-hydroxybenzyl)-N,N,N,N,N-pentakis-(8-aza-2-hydroxy-4-oxa-6,10-diaminodecyl)pentane-1,5-diamine (preparation given) and Et<sub>3</sub>N in MeOH was treated with a solution of di-tert-Bu 3,6,9-triaza-3,6,9-tris(tert-butoxycarbonylmethyl)-4-[(oxiranylmethoxy)methyl]undecanedicarboxylate in MeOH, followed by refluxing for 36 h, to give 3-aza-1,5-diamino-2-(4-hydroxybenzyl)-N,N,N,N,N-pentakis[8-aza-6,10-diamino-2-hydroxy-4-oxa-N',N',N',N',N'-pentakis-2-hydroxy-4-oxa-6,10-bis[di(carboxymethylamino)]-8-(carboxymethylaza)decyldecyl]pentane, which was converted into Gd complexes.

IC ICM C07C101-26

ICS C07D257-02; C07D207-452; C07F005-00; A61K049-00; A61K031-555

CC 9-10 (Biochemical Methods)

Section cross-reference(s): 23, 63

ST complexant metal drug diagnosis; aza aliph compd complexant

IT Antibodies

RL: ANST (Analytical study)

(complexes with aliphatic aza derivs., as diagnostic and therapeutic agents)

IT Radiography

Tomography

(contrast agents for, metal complexes of aliphatic aza compds. as)

IT Sound and Ultrasound, biological effects

(diagnosis by, contrast agents for, metal complexes of aliphatic aza compds. as)

IT Pharmaceuticals

(metal complexes of aliphatic aza compds.)

IT Antibodies

RL: ANST (Analytical study)

(monoclonal, complexes with aliphatic aza derivs., as diagnostic and therapeutic agents)

IT 15750-15-9D, Indium-111, complex with azadecyldiaminoethane derivative, conjugate with monoclonal antibody 7B10D11 125080-64-0D, indium-111 complex, conjugate with monoclonal antibody 7B10D11

RL: ANST (Analytical study)

(as diagnostic and therapeutic agent)

IT 125080-50-4D, salts, gadolinium complexes

RL: ANST (Analytical study)  
(as therapeutic and complexing agent)

IT 106-89-8, biological studies  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(cyclization by, of hydroxymethyltetraazacyclododecane derivative)

IT 121326-92-9  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(cyclization of, with epichlorohydrin)

IT 125080-40-2P 125080-45-7P 125080-52-6P 125080-54-8P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(preparation and cyclization of, with epichlorohydrin)

IT 119958-72-4P 125080-38-8P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(preparation and hydrobromination of)

IT 121326-90-7P 121327-54-6P 125080-41-3P 125267-73-4P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(preparation and hydrogenation of)

IT 125080-42-4P 125080-47-9P 125080-58-2P 125080-62-8P 125110-07-8P  
125110-09-0P 125110-10-3P 125267-68-7P 125267-69-8P 125267-70-1P  
125267-72-3P 125293-00-7P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(preparation and hydrolysis of)

IT 119959-00-1P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(preparation and reaction of, with aza(hydroxybenzyl)pentanediamine)

IT 125080-35-5P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(preparation and reaction of, with aza(hydroxybenzyl)pentanediamine)

IT 16695-22-0P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(preparation and reaction of, with aza(hydroxymethyl)tritosylpentanediamine)

IT 125080-44-6P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(preparation and reaction of, with azapentanediamine derivative)

IT 119958-71-3P 125080-37-7P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(preparation and reaction of, with azatritosyldihydroxypentane)

IT 119958-67-7P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(preparation and reaction of, with benzyl (aminoethyl)carbamate)

IT 125080-46-8P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(preparation and reaction of, with diaminopentane derivative)

IT 125080-61-7P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT  
(Reactant or reagent)  
(preparation and reaction of, with hydrazine)

IT 121327-42-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and reaction of, with hydroxybenzyltetraazacyclododecane)

IT 125267-71-2P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and reaction of, with maleic anhydride)

IT 125080-55-9P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and reaction of, with pentanediamine derivative)

IT 119958-73-5P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and reaction of, with suberic acid derivative)

IT 125080-57-1P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and reaction of, with undecanedicarboxylic acid derivative)

IT 125080-39-9P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and reaction of, with tert-Bu bromoacetate)

IT 121326-89-4P 121326-91-8P 121327-55-7P 125080-43-5P 125080-56-0P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and reduction of)

IT 125080-36-6P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)  
(preparation and tosylation of)

IT 125931-70-6P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of, as complexing agent for diagnosis and therapy)

IT 125080-48-0P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of, as complexing agent for preparation of diagnostic and therapeutic agents)

IT 125080-49-1P 125080-59-3P 125080-60-6P 125080-63-9P 125267-74-5P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of, as complexing agent in preparation of diagnostic and therapeutic agents)

IT 125080-50-4P 125080-51-5P 125080-53-7P 125110-08-9P 125954-20-3P  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of, as complexing agent in preparation of therapeutic and diagnostic agents)

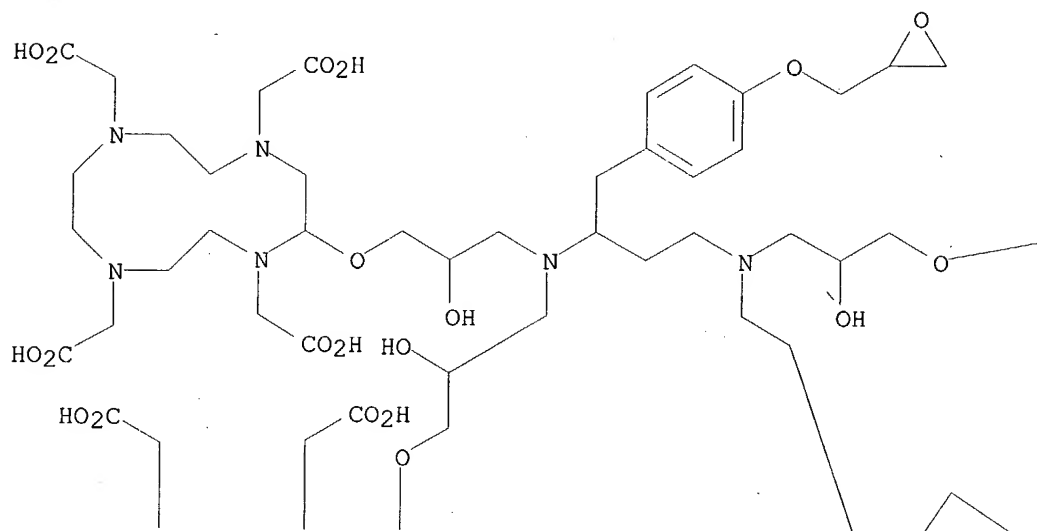
IT 7440-54-2DP, Gadolinium, complexes with polyamino compds. 125080-48-0DP, salts, gadolinium complexes 125080-59-3DP, salts, gadolinium complexes 125080-60-6DP, salts, gadolinium complexes, conjugates with monoclonal antibody 7B10D11 fragment 125110-08-9DP, salts, gadolinium complexes 125267-74-5DP, salts, gadolinium complexes  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of, as diagnostic and therapeutic agent)

IT 125080-49-1DP, salts, gadolinium complexes 125080-63-9DP, salts, gadolinium complexes  
RL: SPN (Synthetic preparation); PREP (Preparation)

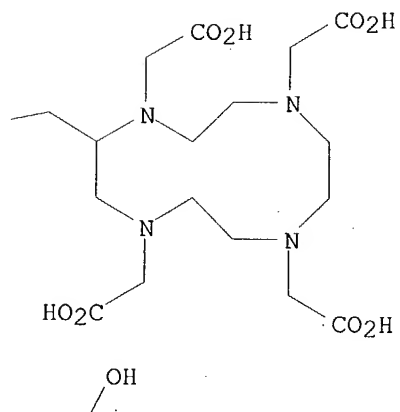
- (preparation of, as diagnostic and therapeutic agents)
- IT 6284-40-8DP, salts of polyamino gadolinium complexes 125931-70-6DP, salts, gadolinium complexes  
RL: SPN (Synthetic preparation); PREP (Preparation)
- (preparation of, as diagnostic and therapeutic agent)
- IT 125080-51-5DP, salts, gadolinium complexes 125954-20-3DP, salts, gadolinium complexes  
RL: SPN (Synthetic preparation); PREP (Preparation)
- (preparation of, as therapeutic and diagnostic agent)
- IT 125080-53-7DP, salts, gadolinium complexes  
RL: SPN (Synthetic preparation); PREP (Preparation)
- (preparation of, as therapeutic and diagnostic agents)
- IT 121327-45-5  
RL: RCT (Reactant); RACT (Reactant or reagent)
- (reaction of, in preparation of therapeutic and diagnostic complexing agent)
- IT 73504-43-5  
RL: RCT (Reactant); RACT (Reactant or reagent)
- (reaction of, with Et oxamate)
- IT 16652-64-5, O-Benzyltyrosine  
RL: RCT (Reactant); RACT (Reactant or reagent)
- (reaction of, with Et trifluoroacetate)
- IT 302-01-2, Hydrazine, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)
- (reaction of, with azadecyldiaminoethane derivative)
- IT 108-31-6, 2,5-Furandione, reactions 39945-54-5  
RL: RCT (Reactant); RACT (Reactant or reagent)
- (reaction of, with azadecylpentane derivative)
- IT 1117-71-1, Methyl 4-bromocrotonate  
RL: RCT (Reactant); RACT (Reactant or reagent)
- (reaction of, with azapentane derivative)
- IT 1145-80-8  
RL: RCT (Reactant); RACT (Reactant or reagent)
- (reaction of, with benzyl (aminoethyl)carbamate)
- IT 18807-71-1  
RL: RCT (Reactant); RACT (Reactant or reagent)
- (reaction of, with benzyltrifluoroacetyltyrosine)
- IT 4755-77-5  
RL: RCT (Reactant); RACT (Reactant or reagent)
- (reaction of, with benzyltyrosinamide)
- IT 383-63-1, Ethyl trifluoroacetate  
RL: RCT (Reactant); RACT (Reactant or reagent)
- (reaction of, with benzyltyrosine)
- IT 617-36-7  
RL: RCT (Reactant); RACT (Reactant or reagent)
- (reaction of, with benzyltyrosylamide)
- IT 5292-43-3, tert-Butyl bromoacetate  
RL: RCT (Reactant); RACT (Reactant or reagent)
- (reaction of, with hydroxymethyltetraazacyclododecane)
- IT 72732-69-5  
RL: RCT (Reactant); RACT (Reactant or reagent)
- (reaction of, with undecanedicarboxylic acid derivative)
- IT 125080-50-4D, salts, gadolinium complexes  
RL: ANST (Analytical study)
- (as therapeutic and complexing agent)
- RN 125080-50-4 HCAPLUS
- CN 1,4,7,10-Tetraazacyclododecane-1,4,7,10-tetraacetic acid,  
2,2'-[9-[2-[bis[2-hydroxy-3-[[1,4,7,10-tetrakis(carboxymethyl)-1,4,7,10-tetraazacyclododec-2-yl]methoxy]propyl]amino]ethyl]-4,11-dihydroxy-6-[2-hydroxy-3-[[1,4,7,10-tetrakis(carboxymethyl)-1,4,7,10-tetraazacyclododec-2-

yl]methoxy]propyl]-7-[[4-(oxiranylmethoxy)phenyl]methyl]-2,13-dioxo-6,9-diazatetradecane-1,14-diyl]bis- (9CI) (CA INDEX NAME)

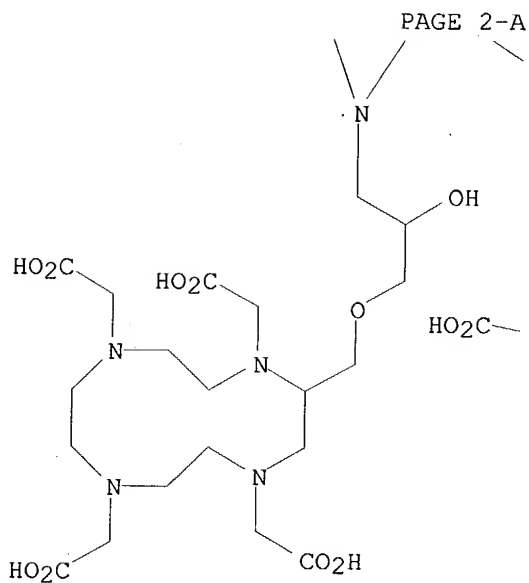
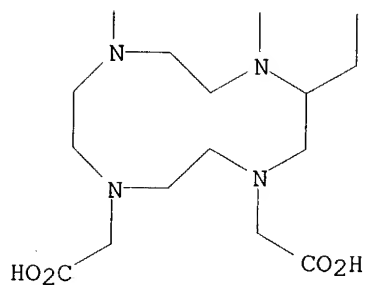
PAGE 1-A



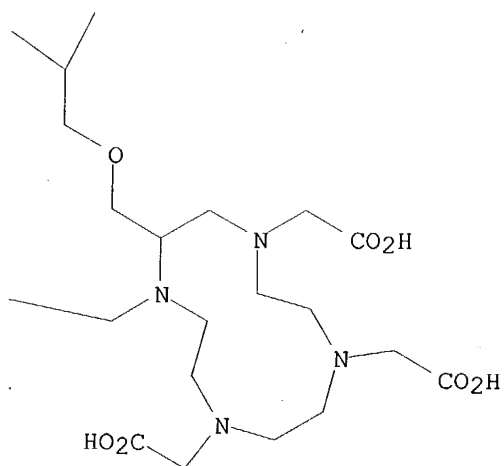
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PAGE 2-B



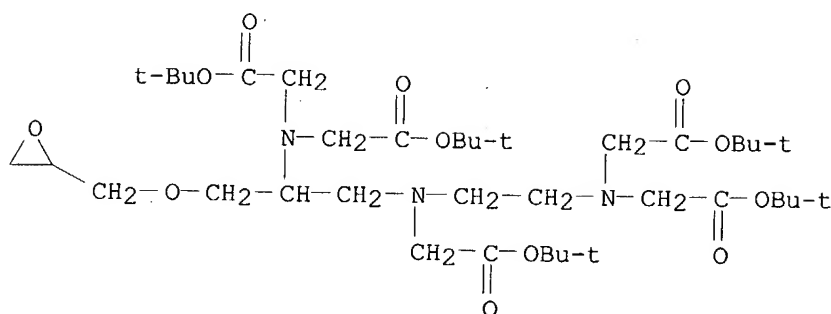
IT 125080-46-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and reaction of, with diaminopentane derivative)

RN 125080-46-8 HCAPLUS

CN Glycine, N-[2-[bis[2-(1,1-dimethylethoxy)-2-oxoethyl]amino]ethyl]-N-[2-[bis[2-(1,1-dimethylethoxy)-2-oxoethyl]amino]-3-(oxiranylmethoxy)propyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



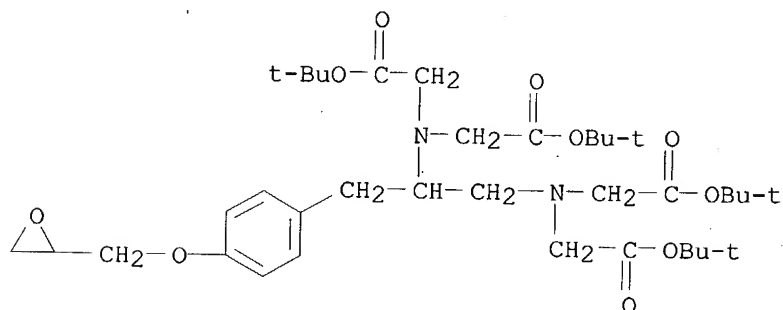
IT 121327-42-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and reaction of, with hydroxybenzyltetraazacyclododecane)

RN 121327-42-2 HCAPLUS

CN Glycine, N,N'-[1-[[4-(oxiranylmethoxy)phenyl]methyl]-1,2-ethanediyl]bis[N-[2-(1,1-dimethylethoxy)-2-oxoethyl]-, bis(1,1-dimethylethyl) ester (9CI) (CA INDEX NAME)



IT 125080-50-4P

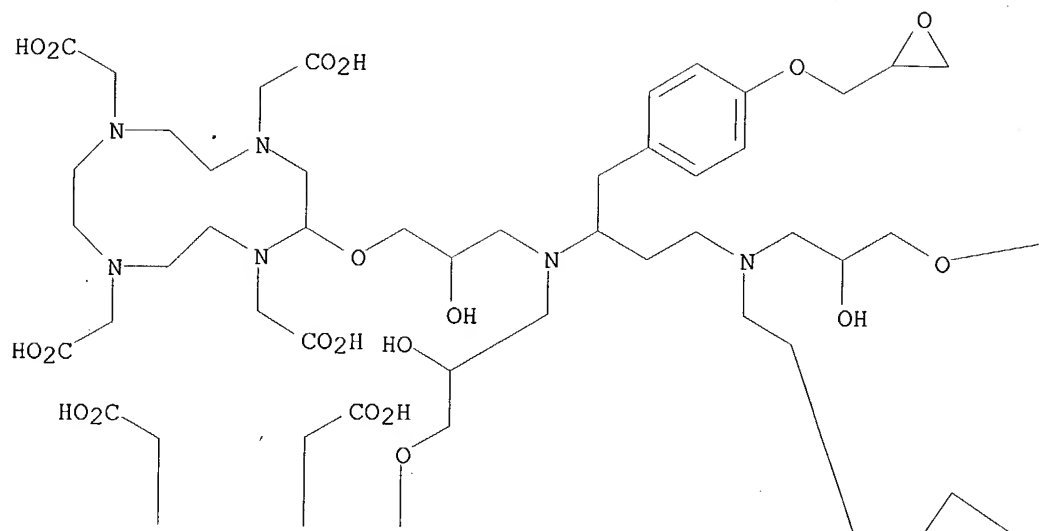
RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of, as complexing agent in preparation of therapeutic and diagnostic agents)

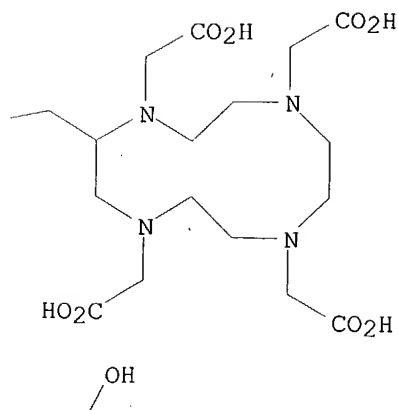
RN 125080-50-4 HCAPLUS

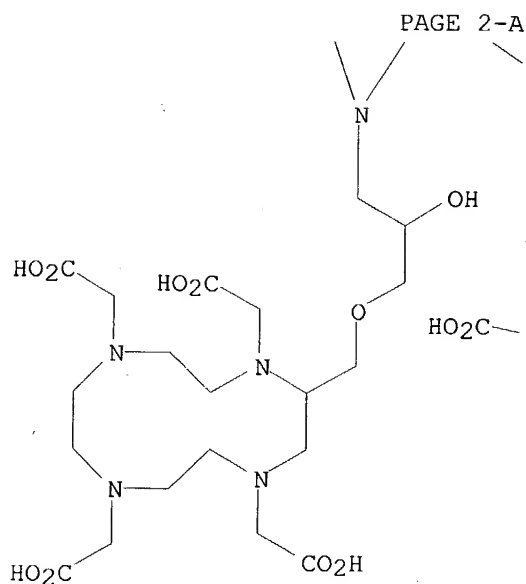
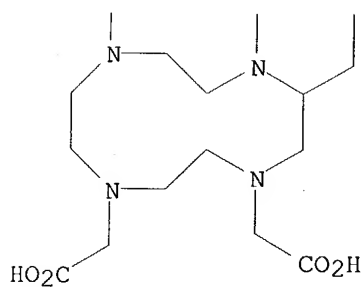
CN 1,4,7,10-Tetraazacyclododecane-1,4,7,10-tetraacetic acid, 2,2'-[9-[2-[bis[2-hydroxy-3-[[1,4,7,10-tetrakis(carboxymethyl)-1,4,7,10-tetraazacyclododec-2-yl]methoxy]propyl]amino]ethyl]-4,11-dihydroxy-6-[2-hydroxy-3-[[1,4,7,10-tetrakis(carboxymethyl)-1,4,7,10-tetraazacyclododec-2-yl]methoxy]propyl]-7-[[4-(oxiranylmethoxy)phenyl]methyl]-2,13-dioxo-6,9-diazatetradecane-1,14-diyl]bis- (9CI) (CA INDEX NAME)

PAGE 1-A

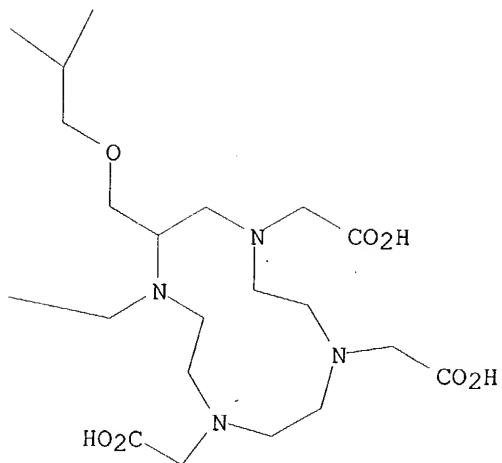


PAGE 1-B





PAGE 2-B



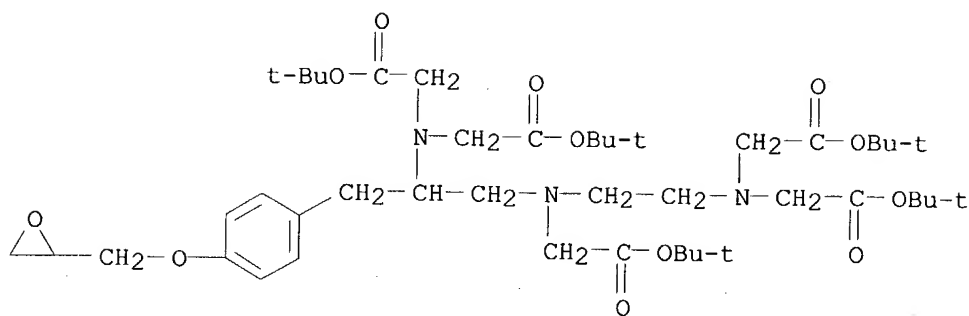
IT 121327-45-5

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, in preparation of therapeutic and diagnostic complexing agent)

RN 121327-45-5 HCAPLUS

CN Glycine, N-[2-[bis[2-(1,1-dimethylethoxy)-2-oxoethyl]amino]ethyl]-N-[2-[bis[2-(1,1-dimethylethoxy)-2-oxoethyl]amino]-3-[4-(oxiranylmethoxy)phenyl]propyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



L126 ANSWER 6 OF 13 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1989:554376 HCAPLUS

DN 111:154376

TI Preparation of (carboxymethylamino)ethylene oligomers and their metal complexes for use as nuclear magnetic resonance and radiographic imaging agents

IN Deutsch, Julius; Gries, Heinz; Klieger, Erich; Niedballa, Ulrich; Renneke, Franz Josef; Conrad, Juergen; Muetzel, Wolfgang

PA Schering A.-G., Fed. Rep. Ger.

SO Ger. Offen., 57 pp.

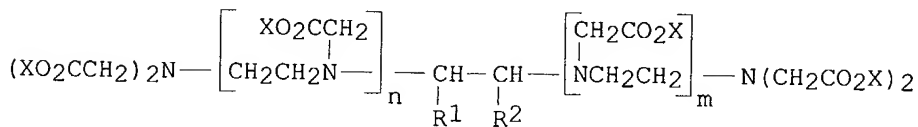
CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 2

|      | PATENT NO.                                    | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---|------|----------|-----------------|----------|
| PI   | DE 3710730                                    | A1   | 19881020 | DE 1987-3710730 | 19870331 |
|      | WO 8807521                                    | A1   | 19881006 | WO 1988-DE199   | 19880328 |
|      | W: JP, US                                     |      |          |                 |          |
|      | RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE    |      |          |                 |          |
| EP   | 357622  | A1   | 19900314 | EP 1988-902796  | 19880328 |
|      | R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE |      |          |                 |          |
| JP   | 02502820                                      | T2   | 19900906 | JP 1988-502746  | 19880328 |
| US   | 5693309                                       | A    | 19971202 | US 1995-462213  | 19950605 |
| PRAI | DE 1987-3710730                               |      | 19870331 |                 |          |
|      | WO 1988-DE199                                 |      | 19880328 |                 |          |
|      | US 1989-430442                                |      | 19891002 |                 |          |
|      | US 1991-715713                                |      | 19910618 |                 |          |
|      | US 1993-66646                                 |      | 19930525 |                 |          |
|      | US 1994-269504                                |      | 19940701 |                 |          |
| OS   | MARPAT 111:154376                             |      |          |                 |          |
| GI   |   |      |          |                 |          |



AB The title compds. [I; R<sub>1</sub>, R<sub>2</sub> = H, (substituted) (imino-, phenyleneoxy-, O-, S-, etc. containing) Cl-20 alkylene terminated by another I moiety

(connected at R1 or R2) or by a macromol.; X = H, metal ion selected from elements with atomic nos. 21-29, 31, 32, 38, 39, 42-44, 49, 57-83; m, n = 0-4, m + n ≤ 4], useful as diagnostic imaging agents, for radiotherapy, and as haptens for preparation of antibodies (no data) were prepared 4-HOC6H4CH2CH(NH2)CH2NH2.2HCl in DMF containing KHCO3 was treated at 35° with BrCH2CO2CMe3 in DMF and the mixture was stirred 2-5. h to give 63% Me3CO2CCH2NHCH(CH2C6H4OH-4)CH2NHCH2CO2CMe3. The latter in THF was treated with NaH and then PhCH2O2CNH(CH2)3Br in THF. The mixture was stirred overnight and the product was hydrogenolyzed, condensed with maleic anhydride, and hydrolyzed with CF3CO2H to give 3,6-diaza-3,6-bis(carboxymethyl)-4-[4-(3-maleimidopropoxy)benzyl]suberic acid. The Gd complex of the latter was prepared in NH4OAc-aq using Gd(OAc)3.

IC ICM C07C101-02  
ICS A61K049-04; C07D303-36; C07F007-18; C07D233-61; C07D295-12; C07D207-452; A61K031-185; A61K039-385; A61K031-28; A61K043-00  
CC 34-3 (Amino Acids, Peptides, and Proteins)  
ST Section cross-reference(s): 8, 77, 78  
ST carboxymethylaminoethylene oligomer prepn imaging agent; NMR imaging agent  
ST carboxymethylaminoethylene oligomer; gadolinium carboxymethylaminoethylene  
IT oligomer complex  
IT Radiography  
IT (imaging agents for, (carboxyimino)ethylene derivs.)  
IT Antibodies  
IT RL: RCT (Reactant); RACT (Reactant or reagent)  
IT (partial enzymic hydrolysis of, in preparation of diagnostic imaging agent)  
IT Radiotherapy  
IT (preparation of (carboxymethylamino)ethylene derivs. for)  
IT Haptens  
IT RL: SPN (Synthetic preparation); PREP (Preparation)  
IT (preparation of (carboxymethylimino)ethylene derivs. as)  
IT Imaging  
IT (NMR, poly(carboxymethylimino)ethylene derivs. as agents for)  
IT 5292-43-3, tert-Butyl bromoacetate  
IT RL: RCT (Reactant); RACT (Reactant or reagent)  
IT (alkylation by, of hydroxybenzyl diaminoethane, in preparation of diagnostic  
IT imaging agent)  
IT 121326-70-3  
IT RL: RCT (Reactant); RACT (Reactant or reagent)  
IT (alkylation of, by bromoacetate, in preparation of diagnostic imaging agent)  
IT 121341-84-2DP, gadolinium complexes 121413-32-9P 121413-33-0P  
121413-34-1P 121413-35-2P 121413-36-3P 121413-37-4P 121413-38-5P  
121413-39-6P 121413-40-9P 121413-41-0P 121413-42-1P 121413-43-2P  
121413-44-3P 121413-45-4P 121413-46-5P 121413-47-6P 121413-48-7P  
121413-49-8P 121413-50-1P 121413-51-2P 121413-52-3P 121413-53-4P  
121413-54-5P 121413-55-6P 121413-56-7P 121413-57-8P 121413-58-9P  
121413-59-0P 121413-60-3P 121413-61-4P 121413-62-5P 121413-63-6P  
121413-64-7P 121413-65-8P 121413-66-9P 121413-67-0P 121413-68-1P  
121413-69-2P 121413-70-5P 121413-71-6P 121413-72-7P 121413-73-8P  
121413-74-9P 121413-75-0P 121413-76-1P 121413-77-2P 121413-78-3P 121413-79-4P  
121413-80-5P 121413-81-8P 121413-82-9P 121413-83-0P 121413-84-1P 121413-85-2P  
121413-86-3P 121413-87-4P 121413-88-5P 121413-89-6P 121413-90-7P  
121413-91-0P 121413-92-1P 121413-93-2P 121413-94-3P 121413-95-4P  
121413-96-5P 121413-97-6P 121413-98-7P 121413-99-8P 121414-00-4P  
121414-01-5P 121414-02-6P 121414-03-7P 121414-04-8P 121414-05-9P  
121414-06-0P 121414-07-1P 121414-08-2P 121414-09-3P 121414-10-6P  
121414-11-7P 121414-12-8P 121414-13-9P 121414-14-0P 121414-15-1P  
121414-16-2P 121414-17-3P 121430-24-8P 121430-25-9P 121430-26-0P 121430-27-1P  
121430-28-2P 121430-29-3P 121430-30-6P 121430-31-7P 121430-32-8P  
121430-33-9P 121430-34-0P 121430-35-1P 121430-36-2P 121430-37-3P

|              |              |              |              |              |
|--------------|--------------|--------------|--------------|--------------|
| 121430-38-4P | 121430-39-5P | 121430-40-8P | 121430-41-9P | 121430-42-0P |
| 121436-83-7P | 121436-84-8P | 121436-85-9P | 121436-86-0P | 121436-87-1P |
| 121436-88-2P | 121436-89-3P | 121436-90-6P | 121436-91-7P | 121436-92-8P |
| 121436-93-9P | 121436-94-0P | 121436-95-1P | 121436-96-2P | 121436-97-3P |
| 121436-98-4P | 121436-99-5P | 121437-00-1P | 121437-01-2P | 121437-02-3P |
| 121437-03-4P | 121437-04-5P | 121437-05-6P | 121437-06-7P | 121437-07-8P |
| 121437-08-9P | 121437-09-0P | 121437-10-3P | 121437-11-4P | 121437-12-5P |
| 121437-13-6P | 121437-14-7P | 121437-15-8P | 121437-16-9P | 121437-17-0P |
| 121437-18-1P | 121437-19-2P | 121437-20-5P | 121452-65-1P | 121452-66-2P |
| 121515-94-4P | 121515-95-5P | 121515-96-6P | 122042-07-3P | 122042-08-4P |
| 122843-48-5P |              |              |              |              |

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of, as diagnostic imaging agent)

IT 6284-40-8DP, metal complexes, salts 7440-54-2DP, Gadolinium, complexes with triethylenetetraminehexacarboxylic acid derivs. 121326-67-8DP, gadolinium complexes 121326-68-9DP, gadolinium complexes 121326-69-0DP, gadolinium complexes

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of, as diagnostic imaging agents)

|                     |                     |                     |              |              |
|---------------------|---------------------|---------------------|--------------|--------------|
| IT 39945-54-5P      | 42022-56-0P         | 119958-67-7P        | 119958-70-2P | 119958-76-8P |
| 119958-77-9P        | 119958-78-0P        | 119958-94-0P        | 121326-67-8P | 121326-68-9P |
| 121326-69-0P        | 121326-71-4P        | 121326-72-5P        | 121326-73-6P | 121326-74-7P |
| 121326-75-8P        | 121326-76-9P        | 121326-77-0P        | 121326-78-1P | 121326-79-2P |
| 121326-80-5P        | 121326-81-6P        | 121326-82-7P        | 121326-83-8P | 121326-84-9P |
| 121326-85-0P        | 121326-86-1P        | 121326-87-2P        | 121326-88-3P | 121326-89-4P |
| 121326-90-7P        | 121326-91-8P        | 121326-92-9P        | 121326-93-0P | 121326-94-1P |
| 121326-95-2P        | 121326-96-3P        | 121326-97-4P        | 121326-98-5P | 121326-99-6P |
| 121327-00-2P        | 121327-01-3P        | 121327-02-4P        | 121327-03-5P | 121327-04-6P |
| 121327-05-7P        | 121327-06-8P        | 121327-07-9P        | 121327-08-0P | 121327-09-1P |
| 121327-10-4P        | 121327-11-5P        | 121327-12-6P        | 121327-13-7P | 121327-14-8P |
| 121327-15-9P        | 121327-16-0P        | 121327-17-1P        | 121327-18-2P | 121327-19-3P |
| 121327-20-6P        | 121327-21-7P        | 121327-22-8P        | 121327-23-9P | 121327-24-0P |
| 121327-25-1P        | 121327-26-2P        | 121327-27-3P        | 121327-28-4P | 121327-29-5P |
| 121327-30-8P        | 121327-31-9P        | 121327-32-0P        | 121327-33-1P | 121327-34-2P |
| 121327-35-3P        | 121327-36-4P        | 121327-37-5P        | 121327-38-6P | 121327-39-7P |
| 121327-40-0P        | 121327-41-1P        | <b>121327-42-2P</b> | 121327-43-3P |              |
| 121327-44-4P        | <b>121327-45-5P</b> | 121327-46-6P        | 121327-47-7P |              |
| <b>121327-48-8P</b> | 121327-49-9P        | 121327-50-2P        | 121327-51-3P |              |
| 121327-52-4P        | 121327-53-5P        | 121327-54-6P        | 121327-55-7P | 121327-56-8P |
| 121327-57-9P        | 121327-58-0P        | 121341-84-2P        | 121341-85-3P | 121341-86-4P |
| 121341-87-5P        | 121341-88-6P        | 121341-89-7P        | 121341-90-0P |              |

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of, as intermediate for diagnostic imaging agent)

IT 106-89-8, reactions 106-96-7, 3-Bromopropyne 108-31-6, 2,5-Furandione, reactions 302-01-2, Hydrazine, reactions 543-20-4, Succinyl chloride 617-36-7 920-46-7 1145-80-8 4755-77-5, Ethyloxalylchloride 5437-45-6, Benzyl bromoacetate 6284-40-8 18807-71-1 36182-48-6, Dibromobutane 73504-43-5 78277-26-6 119959-23-8

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, in preparation of diagnostic imaging agent)

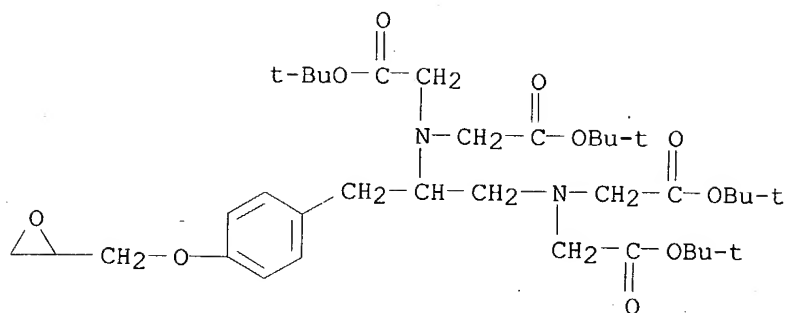
IT **121327-42-2P 121327-45-5P 121327-48-8P**

RL: SPN (Synthetic preparation); PREP (Preparation)

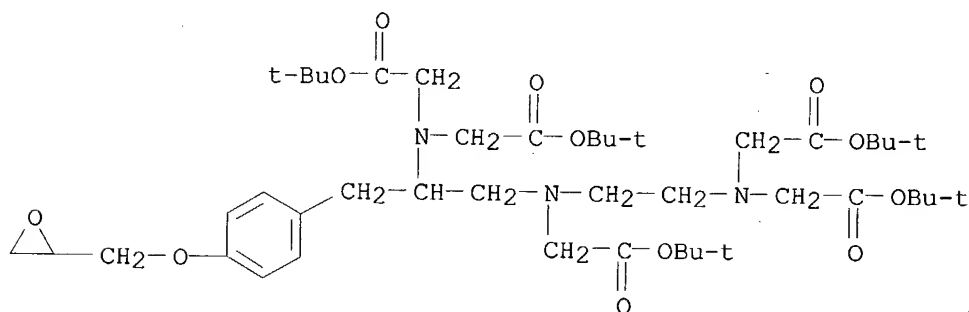
(preparation of, as intermediate for diagnostic imaging agent)

RN 121327-42-2 HCAPLUS

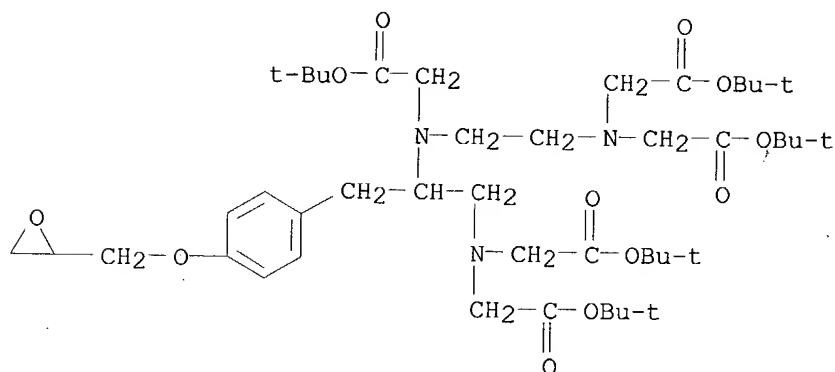
CN Glycine, N,N'-[1-[[4-(oxiranylmethoxy)phenyl]methyl]-1,2-ethanediyl]bis[N-[2-(1,1-dimethylethoxy)-2-oxoethyl]-, bis(1,1-dimethylethyl) ester (9CI)  
(CA INDEX NAME)



RN 121327-45-5 HCAPLUS  
 CN Glycine, N-[2-[bis[2-(1,1-dimethylethoxy)-2-oxoethyl]amino]ethyl]-N-[2-[bis[2-(1,1-dimethylethoxy)-2-oxoethyl]amino]-3-[4-(oxiran-2-ylmethoxy)phenyl]propyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



RN 121327-48-8 HCAPLUS  
 CN Glycine, N-[2-[bis[2-(1,1-dimethylethoxy)-2-oxoethyl]amino]ethyl]-N-[1-[[bis[2-(1,1-dimethylethoxy)-2-oxoethyl]amino]methyl]-2-[4-(oxiran-2-ylmethoxy)phenyl]ethyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)



L126 ANSWER 7 OF 13 HCAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1986:150354 HCAPLUS  
 DN 104:150354

KATHLEEN FULLER EIC 1700 REMSEN 4B28 571/272-2505



TI Flame-resistant adhesives  
 IN Furuhashi, Toshikazu  
 PA Mitsui Petrochemical Industries, Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 8 pp.  
 CODEN: JKXXAF

DT Patent  
 LA Japanese

FAN.CNT 1

|      | PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---------------|------|----------|-----------------|----------|
| PI   | JP 60186579   | A2   | 19850924 | JP 1984-42283   | 19840305 |
|      | JP 03059947   | B4   | 19910912 |                 |          |
| PRAI | JP 1984-42283 |      | 19840305 |                 |          |

AB Flame-resistant adhesives for flexible printed circuit boards with excellent soldering heat resistance and flexibility comprise an epoxy resin containing glycidyl groups and halogen, a nitrile rubber containing carboxyl groups, and an aromatic polyamine crosslinking agent. Thus, a mixture of 13.6% MEK solution of Nipol 1072 200, 70% MEK solution of Shodine 821 16, and Ciba 8011 N 80 66.25 g was stirred to give a solution (A). A mixture of 3,3'-diaminodiphenyl sulfone 8.53, 1,8-diazabicyclo[5.4.0]undec-7-ene 1.00, and Me Cellosolve 46.92 g was stirred to give another solution (B). A 50-μ polyimide film was coated with an adhesive consisting of 100 g A and 20 g B to a thickness of 30 μ, dried 4 min at 130°, and pressed with a 35-μ electrolytic Cu foil to give a laminate with peel strength 1.32 kg/cm, excellent soldering resistance, and flame resistance UL-94 rating V-0.

IC ICM C09J003-16

ICS C08G059-40; C08G059-50; H05K001-03

CC 38-3 (Plastics Fabrication and Uses)

ST carboxylated nitrile rubber adhesive; brominated epoxy resin adhesive; printed circuit board adhesive; azabicycloundecene reaction product crosslinking agent; aminodiphenyl sulfone product crosslinking agent

IT Epoxy resins, uses and miscellaneous

RL: TEM (Technical or engineered material use); USES (Uses)

(adhesives, containing aromatic polyamine crosslinking agent, flame-resistant,

for printed circuit boards)

IT Crosslinking agents

(aromatic polyamines, for epoxy resin adhesives for printed circuit boards)

IT Polyimides, uses and miscellaneous

RL: USES (Uses)

(films, copper foil laminates, epoxy resin adhesives for, as printed circuit boards)

IT Adhesives

(fire-resistant, epoxy resin-carboxylated nitrile rubber, containing aromatic

polyamine crosslinking agent, for printed circuit boards)

IT Amines, uses and miscellaneous

RL: USES (Uses)

(poly-, aromatic, crosslinking agents, for epoxy resin adhesives for printed circuit boards)

IT Electric circuits

(printed, boards, adhesives for, fire-resistant, epoxy resin-carboxylated nitrile rubber-aromatic polyamine compns. as)

IT 101552-10-7

RL: TEM (Technical or engineered material use); USES (Uses)

(adhesives, containing carboxylated nitrile rubber and aromatic polyamine

crosslinking agent, flame-resistant, for printed circuit boards)  
 IT 101552-11-8 101552-12-9 101613-11-0  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (adhesives, containing carboxylated nitrile rubber, soldering  
 heat-resistant, for printed circuit boards)  
 IT 101-14-4 101-77-9 599-61-1  
 RL: MOA (Modifier or additive use); USES (Uses)  
 (crosslinking agents, for epoxy resin adhesives for printed circuit  
 boards)  
 IT 6674-22-2  
 RL: CAT (Catalyst use); USES (Uses)  
 (crosslinking catalysts, for epoxy resin adhesives for printed circuit  
 boards)  
 IT 7440-50-8, uses and miscellaneous  
 RL: USES (Uses)  
 (foils, polyimide film laminates, epoxy resin adhesives for, as printed  
 circuit boards)  
 IT 9010-81-5  
 RL: USES (Uses)  
 (rubber, adhesives, epoxy resin-based, containing aromatic polyamine  
 crosslinking agent, flame-resistant, for printed circuit boards)  
 IT 101552-11-8  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (adhesives, containing carboxylated nitrile rubber, soldering  
 heat-resistant, for printed circuit boards)  
 RN 101552-11-8 HCAPLUS  
 CN 1,3,5-Benzenetrimethanamine, N,N,N',N',N'',N''-hexakis(oxiranylmethyl)-,  
 polymer with Araldite 8011N and Shodine 821 (9CI) (CA INDEX NAME)

CM 1

CRN 101239-77-4  
 CMF Unspecified  
 CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

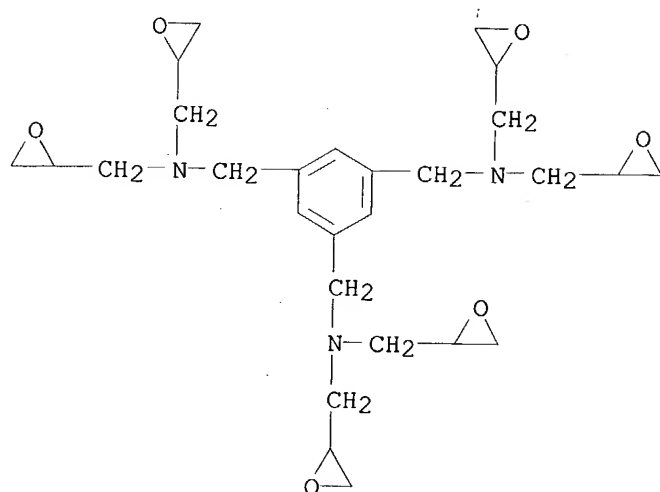
CM 2

CRN 101239-15-0  
 CMF Unspecified  
 CCI PMS, MAN

\*\*\* STRUCTURE DIAGRAM IS NOT AVAILABLE \*\*\*

CM 3

CRN 82803-77-8  
 CMF C27 H39 N3 O6



L126 ANSWER 8 OF 13 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1985:561489 HCAPLUS

DN 103:161489

TI Adhesive compositions

PA Mitsui Petrochemical Industries, Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| PATENT NO.          | KIND | DATE     | APPLICATION NO. | DATE     |
|---------------------|------|----------|-----------------|----------|
| PI JP 60079079      | A2   | 19850504 | JP 1983-187855  | 19831007 |
| PRAI JP 1983-187855 |      | 19831007 |                 |          |

AB Flexible, elec. insulating heat- and solvent-resistant adhesive compns. for metal-clad flexible printed circuit boards consist of bisphenol epoxy resins, N-glycidyl epoxy resins, carboxy-containing nitrile rubbers, and aromatic polyamine hardeners. Thus, 200.0 g 13.6% Nipol 1072 (carboxyl-modified nitrile rubber) in MEK and 50.0 g Epomic R-301 [64772-16-3] (bisphenol epoxy resin) were mixed to obtain a solution, which was combined in a ball mill with 5.0 g Tetrad X (m-xylylenediamine tetraglycidyl ether epoxy resin) [64020-73-1] and 10.0 g toluene. A 5:1 mixture of this composition and a hardener [solution of 9.34 g DAS (3,3'-diaminodiphenyl sulfone) [599-61-1] and 1.0 g DBU in 40.0 g Methyl Cellosolve] was applied to a Kapton 200H [67763-98-8] (polyamide) film, and pressed against the dull side of a Cu foil sheet at 170° for 4 min to obtain a laminate, which had T-peel strength 1.33 kg/cm (vs. 0.82 kg/cm without the Tetrad X and toluene), and was not damaged by dipping it in a solder bath at 300° for 10 s.

IC ICM C09J003-16

ICS C08G059-20; C08G059-40; C08G059-50; H05K003-38

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 39

ST glycidylamine bisphenol epoxy blend adhesive; adhesive epoxy flexible circuit board; printed circuit board flexible adhesive

IT Polyamides, uses and miscellaneous

RL: USES (Uses)

(films, metal foil-clad flexible printed circuit boards, epoxy resin-nitrile rubber adhesives for)

IT Heat-resistant materials  
(adhesives, dielec., epoxy resin blends with carboxylated nitrile rubber, for flexible printed circuit boards)

IT Epoxy resins, uses and miscellaneous  
RL: USES (Uses)  
(bisphenol-based, blends with glycidylamino epoxy resins and carboxylated nitrile rubber, adhesives, for flexible printed circuit boards)

IT Adhesives  
(dielec., heat-resistant, epoxy resin blends with carboxylated nitrile rubber, for flexible printed circuit boards)

IT Epoxy resins, uses and miscellaneous  
RL: USES (Uses)  
(glycidylamino-containing, blends with bisphenol epoxy resins and carboxylated nitrile rubber, adhesives, for flexible printed circuit boards)

IT Amines, uses and miscellaneous  
RL: MOA (Modifier or additive use); USES (Uses)  
(poly-, aryl, crosslinking agents, for epoxy resin-nitrile rubber adhesives for flexible printed circuit boards)

IT Electric circuits  
(printed, boards, flexible, metal foil-clad, epoxy resin-nitrile rubber adhesives for)

IT 31305-94-9 64020-73-1 76025-19-9 93090-11-0  
RL: USES (Uses)  
(blends with bisphenol epoxy resins and carboxylated nitrile rubber, adhesives, for flexible printed circuit boards)

IT 64772-16-3  
RL: USES (Uses)  
(blends with glycidylamino epoxy resins and carboxylated nitrile rubber, adhesives, for flexible printed circuit boards)

IT 101-14-4 101-77-9 599-61-1 57609-64-0  
RL: MOA (Modifier or additive use); USES (Uses)  
(crosslinking agents, for epoxy resin-nitrile rubber adhesives for flexible printed circuit boards)

IT 25036-53-7  
RL: USES (Uses)  
(films, metal foil-clad flexible printed circuit boards, epoxy resin-nitrile rubber adhesives for)

IT 7440-50-8, uses and miscellaneous  
RL: USES (Uses)  
(foil, flexible printed circuit boards clad with, epoxy resin-nitrile rubber adhesives for)

IT 9010-81-5  
RL: USES (Uses)  
(rubber, epoxy resin adhesives containing, for flexible printed circuit boards)

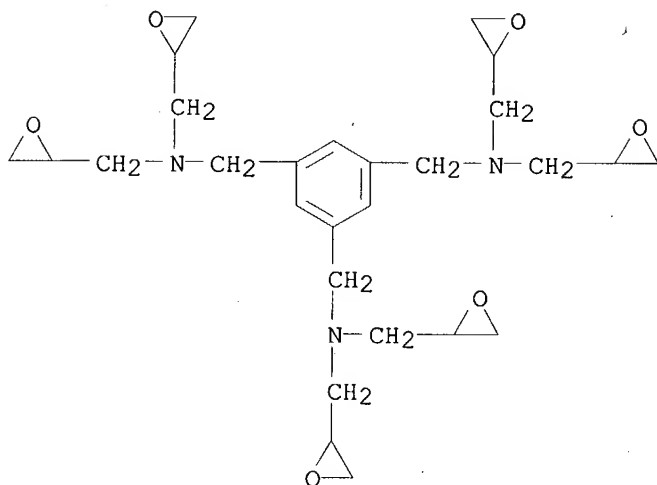
IT 93090-11-0  
RL: USES (Uses)  
(blends with bisphenol epoxy resins and carboxylated nitrile rubber, adhesives, for flexible printed circuit boards)

RN 93090-11-0 HCAPLUS

CN 1,3,5-Benzenetrimethanamine, N,N,N',N',N'',N''-hexakis(oxiranylmethyl)-, homopolymer (9CI) (CA INDEX NAME)

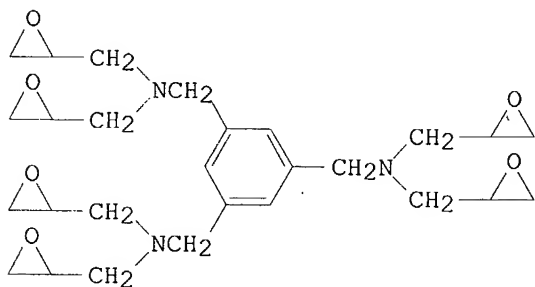
CM 1

CRN 82803-77-8  
CMF C27 H39 N3 O6



L126 ANSWER 9 OF 13 HCAPLUS COPYRIGHT 2004 ACS on STN  
AN 1985:106313 HCAPLUS  
DN 102:106313  
TI Preparation and antitumor activities of hexaglycidyltris(aminomethyl)benzenes  
PA Nippon Kayaku Co., Ltd., Japan  
SO Jpn. Kokai Tokkyo Koho, 3 pp.  
CODEN: JKXXAF  
DT Patent  
LA Japanese  
FAN.CNT 1

|      | PATENT NO.    | KIND | DATE     | APPLICATION NO. | DATE     |
|------|---------------|------|----------|-----------------|----------|
| PI   | JP 59210019   | A2   | 19841128 | JP 1983-83719   | 19830513 |
| PRAI | JP 1983-83719 |      | 19830513 |                 |          |
| GI   |               |      |          |                 |          |

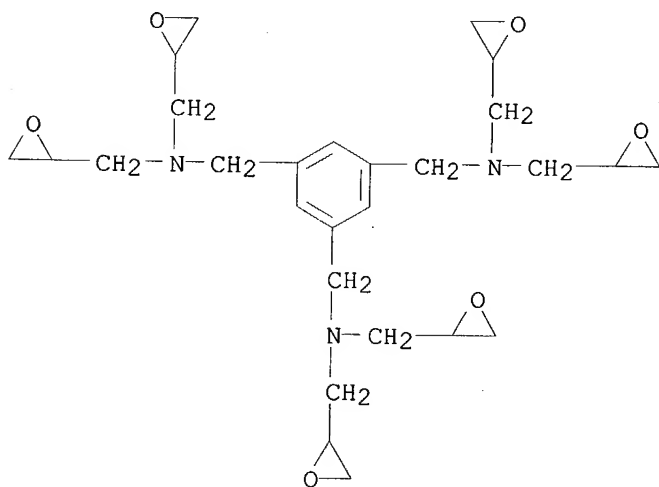


I

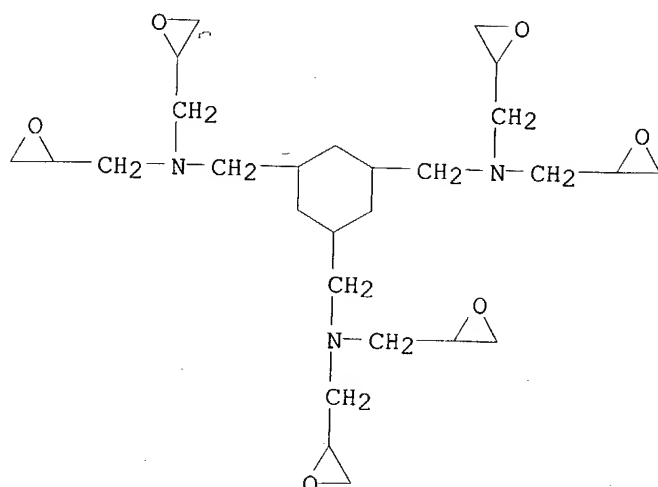
AB N,N,N',N',N'',N'''-Hexaglycidyl-1,3,5-tris(aminomethyl)benzene (I) [82803-77-8] or N,N,N',N',N'',N'''-hexaglycidyl-1,3,5-tris(aminomethyl)cyclohexane [82803-78-9] are prepared and their antitumor activities shown. 1,3,5-Tris(aminomethyl)benzene [77372-56-6]

was added to epichlorohydrin [106-89-8] to give I. The antitumor activity of I injected i.p. at 30 mg/day for 5 days in mice bearing leukemia ascites tumor L-1210 cells was demonstrated.

IC A61K031-335  
ICA C07D303-36  
CC 1-6 (Pharmacology)  
Section cross-reference(s): 24, 25  
ST glycidylaminomethylbenzene prep'n neoplasm inhibitor  
IT Neoplasm inhibitors  
(hexaglycidyltris(aminomethyl)benzene and hexaglycidyltris(aminomethyl)cyclohexane)  
IT **82803-77-8P 82803-78-9P**  
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(preparation and antitumor activity of)  
IT 74421-59-3 77372-56-6  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with epichlorohydrin)  
IT 106-89-8, reactions  
RL: RCT (Reactant); RACT (Reactant or reagent)  
(reaction of, with tris(aminomethyl)benzene)  
IT **82803-77-8P 82803-78-9P**  
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)  
(preparation and antitumor activity of)  
RN 82803-77-8 HCAPLUS  
CN 1,3,5-Benzenetrimethanamine, N,N,N',N',N'',N''-hexakis(oxiranylmethyl)-  
(9CI) (CA INDEX NAME)



RN 82803-78-9 HCAPLUS  
CN 1,3,5-Cyclohexanetrimethanamine, N,N,N',N',N'',N''-hexakis(oxiranylmethyl)-  
(9CI) (CA INDEX NAME)



L126 ANSWER 10 OF 13 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1984:612314 HCAPLUS

DN 101:212314

TI Adhesive compositions for printed circuit boards

PA Mitsui Petrochemical Industries, Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

|      | PATENT NO.     | KIND | DATE     | APPLICATION NO. | DATE     |
|------|----------------|------|----------|-----------------|----------|
| PI   | JP 59089380    | A2   | 19840523 | JP 1982-196782  | 19821111 |
|      | JP 01012319    | B4   | 19890228 |                 |          |
|      | JP 01085271    | A2   | 19890330 | JP 1988-203829  | 19880818 |
|      | JP 05017269    | B4   | 19930308 |                 |          |
| PRAI | JP 1982-196782 |      | 19821111 |                 |          |

AB The title compns. forming adhesive bonds with excellent solder heat resistance and flexibility contain poly(N-glycidyl)-type epoxy resins, carboxylated nitrile rubber, and clay treated with fine powdered silica and/or onium compound. Thus, Bentone 27 (montmorillonite treated with trialkylallylammonium salt, sp. gr. 1.8 at 25°) 14, toluene 121.8, and 95% EtOH 4.2 g were mixed to form a smooth, creamy pregel which was then mixed with Hycar CTBN 1300 + 13 51, Nipol 1072 34, MEK 219.4, and N,N,N',N'-tetraglycidyl-m-xylylenediamine 32.3 g to prepare the main component. This component was then mixed with a hardener solution containing 3,3'-diaminodiphenyl sulfone 19.4 g, diazabicycloundecene 1 g, and methyl Cellosolve 67.9 g to give an adhesive which was coated on a Kapton film, dried at 130° for 4 min, overlaid with a Cu foil, and pressed at 170° and 15 kg/cm<sup>2</sup> for 90 min to give a laminate with peel strength 1.3 kg/cm and solder heat resistance (320°) >30 s.

IC C09J003-16; C08K003-36; C08L063-00; C09C001-42; C09C003-08

ICA H05K003-34

ICI C08L063-00, C08L013-00

CC 38-3 (Plastics Fabrication and Uses)

Section cross-reference(s): 74

ST adhesive printed circuit board; epoxy resin adhesive circuit board; carboxylated nitrile rubber adhesive; silica treated clay adhesive; onium

compd treated clay adhesive

IT Crosslinking agents  
(amines, for nitroge-containing epoxy resin adhesives for printed circuit boards)

IT Quaternary ammonium compounds, uses and miscellaneous  
RL: USES (Uses)  
(clays modified by, in epoxy resin-nitrile rubber adhesive compns. for printed circuit boards)

IT Adhesives  
(nitrogen-containing epoxy resin-carboxylated nitrile rubber-modified clay compns., for printed circuit boards)

IT Clays, uses and miscellaneous  
RL: USES (Uses)  
(silica- or onium compound-modified, epoxy resin-nitrile rubber adhesives containing, for printed circuit boards)

IT Heat-resistant materials  
(adhesives, epoxy resin-carboxylated nitrile rubber-modified clay, for printed circuit boards)

IT Polysulfones  
RL: USES (Uses)  
(epoxy-, nitrogen-containing, mixts. with nitrile rubber and modified clay, adhesives for printed circuit boards)

IT Epoxy resins, uses and miscellaneous  
RL: USES (Uses)  
(polysulfone-, nitrogen-containing, mixts. with nitrile rubber and modified clay, adhesives for printed circuit boards)

IT Electric circuits  
(printed, boards, adhesives for, nitrogen-containing epoxy resin-carboxylated nitrile rubber-modified clay compns. as)

IT 31305-88-1 87500-72-9 **93090-11-0**  
RL: TEM (Technical or engineered material use); USES (Uses)  
(adhesives, containing nitrile rubber and modified clay, for printed circuit boards)

IT 7631-86-9, uses and miscellaneous  
RL: USES (Uses)  
(clays modified by, in epoxy adhesives for printed circuit boards)

IT 599-61-1  
RL: USES (Uses)  
(epoxy resin crosslinked by, containing nitrile rubber and modified clay, adhesives, for printed circuit boards)

IT **93090-11-0**  
RL: TEM (Technical or engineered material use); USES (Uses)  
(adhesives, containing nitrile rubber and modified clay, for printed circuit boards)

RN 93090-11-0 HCAPLUS

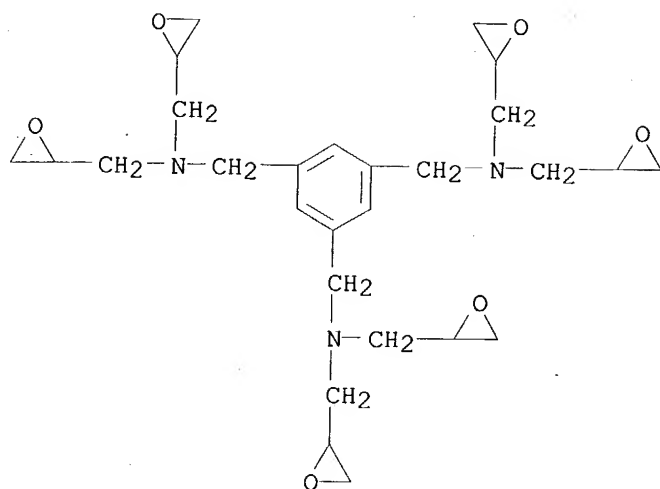
CN 1,3,5-Benzenetrimethanamine, N,N,N',N',N'',N''-hexakis(oxiranylmethyl)-, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 82803-77-8

CMF C27 H39 N3 O6





L126 ANSWER 11 OF 13 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1982:493661 HCAPLUS

DN 97:93661

TI Polyglycidyl compounds

IN Minato, Ichiro; Shibata, Koichi; Fujinami, Kimiya

PA Takeda Chemical Industries, Ltd., Japan

SO Eur. Pat. Appl., 18 pp.

CODEN: EPXXDW

DT Patent

LA English

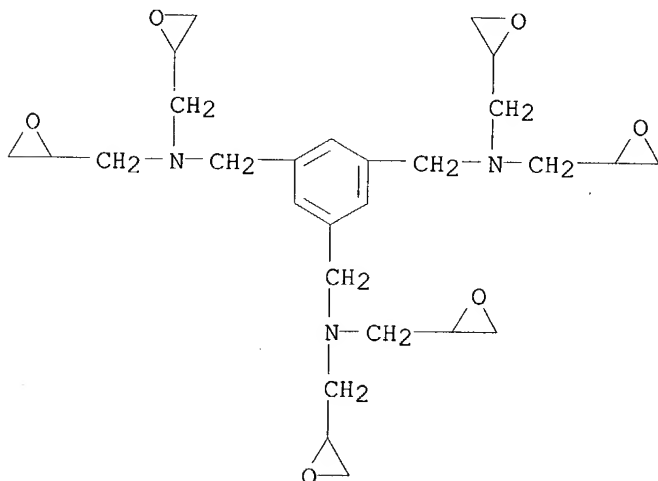
FAN.CNT 1

|      | PATENT NO.                    | KIND | DATE     | APPLICATION NO. | DATE     |
|------|-------------------------------|------|----------|-----------------|----------|
| PI   | EP 53365                      | A1   | 19820609 | EP 1981-109935  | 19811126 |
|      | EP 53365                      | B1   | 19840215 |                 |          |
|      | R: BE, CH, DE, FR, IT, NL, SE |      |          |                 |          |
|      | JP 57091981                   | A2   | 19820608 | JP 1980-168373  | 19801128 |
|      | JP 63064432                   | B4   | 19881212 |                 |          |
|      | GB 2088859                    | A    | 19820616 | GB 1981-34439   | 19811116 |
|      | GB 2088859                    | B2   | 19840718 |                 |          |
|      | US 4400525                    | A    | 19830823 | US 1981-322205  | 19811117 |
|      | CA 1169872                    | A1   | 19840626 |                 |          |
|      | JP 58084865                   | A2   | 19830521 | JP 1982-28009   | 19820222 |
|      | JP 01035862                   | B4   | 19890727 |                 |          |
| PRAI | JP 1980-168373                |      | 19801128 |                 |          |
|      | GB 1981-34439                 |      | 19811116 |                 |          |

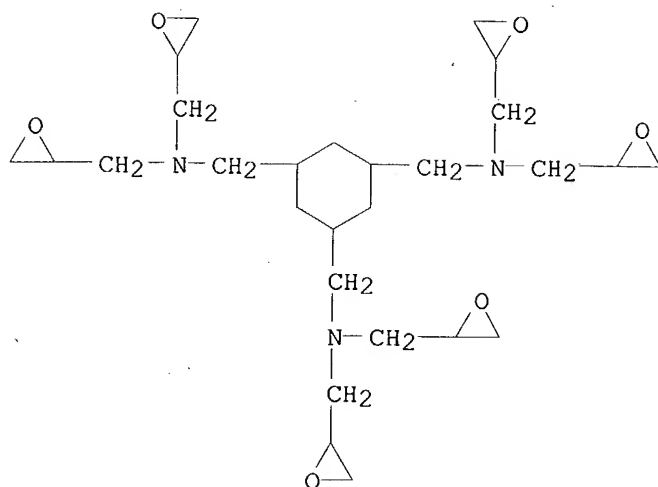
AB Epoxy resin adhesives having good bonding strength and heat resistance are based on N,N,N',N',N'',N''-hexaglycidyl-1,3,5-tris(aminomethyl)benzene (I) [82803-77-8] and N,N,N',N',N'',N''-hexaglycidyl-1,3,5-tris(aminomethyl)cyclohexane [82803-78-9]. Thus, 1,3,5-tricyanobenzene (II) [10365-94-3] was prepared by ammoxidn. of mesitylene [108-67-8]. II was hydrogenated to prepare 1,3,5-tris(aminomethyl)benzene [77372-56-6], which was treated with epichlorohydrin to give I. I containing 59.3 phr diaminodiphenylmethane was applied to a polyester film and heated 3 h at 80°, 3 h at 150°, and 3 h at 180° to give heat distortion temperature >200° and good adhesion.

IC C07D303-36

ICA C07C121-50; C07C087-28; C07C087-34; C08G059-32  
 CC 38-3 (Plastics Fabrication and Uses)  
 ST epoxy resin glycidylaminomethylbenzene adhesive;  
 glycidylaminomethylcyclohexane epoxy adhesive  
 IT Epoxy resins, uses and miscellaneous  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (adhesives, from tris[(diglycidylamino)methyl]benzene and  
 tris[(diglycidylamino)methyl]cyclohexane)  
 IT Adhesives  
 (epoxy resins, from tris[(diglycidylamino)methyl]benzene or  
 tris[(diglycidylamino)methyl]cyclohexane)  
 IT 82803-77-8 82803-78-9  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (adhesives)  
 IT 108-67-8, reactions  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (amination of)  
 IT 10365-94-3  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (hydrogenation of)  
 IT 74421-59-3P 77372-56-6P  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 IT 82803-77-8 82803-78-9  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (adhesives)  
 RN 82803-77-8 HCAPLUS  
 CN 1,3,5-Benzenetrimethanamine, N,N,N',N',N'',N''-hexakis(oxiranylmethyl)-  
 (9CI) (CA INDEX NAME)



RN 82803-78-9 HCAPLUS  
 CN 1,3,5-Cyclohexanetrimethanamine, N,N,N',N',N'',N''-hexakis(oxiranylmethyl)-  
 (9CI) (CA INDEX NAME)



L126 ANSWER 12 OF 13 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1976:165539 HCAPLUS

DN 84:165539

TI Polyglycidal compounds

IN Richter, Michael

PA Schering A.-G., Fed. Rep. Ger.

SO Ger. Offen., 13 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 1

|      | PATENT NO.      | KIND | DATE     | APPLICATION NO. | DATE     |
|------|-----------------|------|----------|-----------------|----------|
| PI   | DE 2437318      | A1   | 19760212 | DE 1974-2437318 | 19740802 |
| PRAI | DE 1974-2437318 |      | 19740802 |                 |          |

AB N-glycidyl derivs. of polycarboxylic acid anilides, useful in the preparation of epoxy resins, are prepared by reaction of the anilides with epihalohydrins. Thus, refluxing adipanilide [4456-80-8] 59, epichlorohydrin [106-89-8] 555, Ph3P 0.4, and H2O 1 g 4 hr, adding 48 g 50% NaOH over 3 hr at 100° with H2O distillation, and distilling H2O for 30 min gives 59 g N,N'-diglycidyladipanilide [36596-56-2], epoxy value 0.33.

IC C07D; C08L

CC 36-2 (Plastics Manufacture and Processing)

Section cross-reference(s): 27

ST glycidylanilide prepn; adipanilide diglycidyl prepn; anilide reaction epichlorohydrin

IT Anilides

RL: USES (Uses)

(glycidyl derivs., manufacture of)

IT 36596-56-2P 38472-01-4P 38472-03-6P 59052-01-6P 59052-02-7P  
59052-05-0P

RL: PREP (Preparation)

(preparation of)

IT 4456-80-8 6833-06-3 14354-86-0 16497-41-9 59052-03-8 59052-04-9

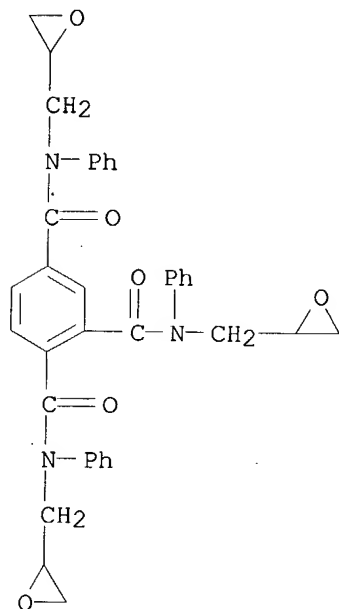
RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with epichlorohydrin)

IT 106-89-8, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(with dianilides)  
 IT 59052-05-0P  
 RL: PREP (Preparation)  
 (preparation of)  
 RN 59052-05-0 HCAPLUS  
 CN 1,2,4-Benzenetricarboxamide, N,N',N''-tris(oxiranylmethyl)-N,N',N''-triphenyl- (9CI) (CA INDEX NAME)



L126 ANSWER 13 OF 13 HCAPLUS COPYRIGHT 2004 ACS on STN

AN 1972:527407 HCAPLUS

DN 77:127407

TI N,N'-diglycidyl dianilide monomers

IN Batzer, Hans; Habermeyer, Juergen; Porret, Daniel

PA Ciba-Geigy A.-G.

SO Ger. Offen., 35 pp.

CODEN: GWXXBX

DT Patent

LA German

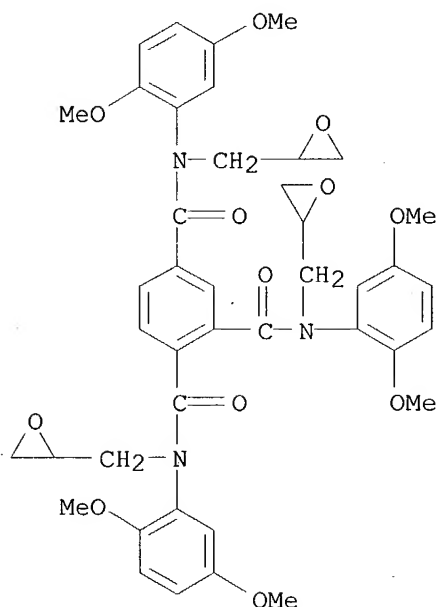
FAN.CNT 1

|    | PATENT NO.         | KIND | DATE     | APPLICATION NO. | DATE     |
|----|--------------------|------|----------|-----------------|----------|
| PI | DE 2147899         | A    | 19720706 | DE 1971-2147899 | 19710924 |
|    | CH 545284          | A    | 19740131 | CH 1970-14268   | 19700925 |
|    | US 3798242         | A    | 19740319 | US 1971-183234  | 19710923 |
|    | FR 2108530         | A5   | 19720519 | FR 1971-34475   | 19710924 |
|    | GB 1357026         | A    | 19740619 | GB 1971-44729   | 19710924 |
|    | US 3904658         | A    | 19750909 | US 1973-426779  | 19731220 |
|    | US 3931058         | A    | 19760106 | US 1973-426780  | 19731220 |
|    | PRAI CH 1970-14268 |      | 19700925 |                 |          |
|    | US 1971-183234     |      | 19710923 |                 |          |

AB The title monomers and polymers made from them were prepared Thus, N,N'-diglycidyladipanilide (I) [36596-56-2] was prepared by treating adipic acid dianilide with epichlorohydrin and tetramethylammonium chloride at

112-15.deg. for 60 min. The intermediate was dehydrohalogenated with NaOH at 60.deg. for 3.5 hr to give yellow-orange I. I (59.6 g) was melted in a mold and mixed with 40.4 g hexahydrophthalic anhydride to give hard, insol., unmeltable, reddish N,N'-diglycidyladipanilide-hexahydrophthalic anhydride resin [36594-96-4]. Eleven other I analogs were prepared N,N'-diglycidylsebacanilide-hexahydrophthalic anhydride resin [36594-97-5] was also prepared

IC C07D; C08G  
 CC 36-2 (Plastics Manufacture and Processing)  
 ST anilide glycidyl; glycidyladipanilide copolymer; hexahydrophthalic anhydride copolymer; glycidylsebacanilide resin; adipic acid anilide resin; sebacic acid anilide resin  
 IT Epoxy resins  
 RL: PROC (Process)  
 (manufacture of, from diglycidyl dianilides and hexahydrophthalic anhydride)  
 IT 36594-96-4P 38467-21-9P  
 RL: PEP (Physical, engineering or chemical process); PREP (Preparation); PROC (Process)  
 (manufacture and properties of)  
 IT 36596-56-2P 38472-01-4P 38472-02-5P 38472-03-6P 38472-04-7P  
 38472-05-8P 38472-06-9P 38472-07-0P 38472-08-1P **38472-09-2P**  
 38619-65-7P 38743-07-6P  
 RL: PREP (Preparation)  
 (preparation of)  
 IT **38472-09-2P**  
 RL: PREP (Preparation)  
 (preparation of)  
 RN 38472-09-2 HCAPLUS  
 CN 1,2,4-Benzenetricarboxamide, N,N',N''-tris(2,5-dimethoxyphenyl)-N,N',N''-tris(oxiranylmethyl)- (9CI) (CA INDEX NAME)



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